

Connecting the World for a Cause




dcvmn
2017



WELCOME NOTE FROM THE PRESIDENT

Dear Colleagues and Friends,

It gives me immense pleasure to connect with you on the occasion of the 18th Annual General Meeting (AGM) of DCVMN. I would like to take this opportunity to reiterate my gratefulness to you - our Members - to have elected me as President to represent not only a group of extraordinary professionals, but also a Network of companies with global impact. I am honoured and humbled that you have placed your trust in me. I am confident that with your cooperation and support we would certainly take this organisation to the next level.

DCVMN and its members are continuously recognized as key players in global health, particularly in tackling emerging outbreaks, elimination of tetanus and measles/rubella and in the eradication of Polio virus. We are proud of what we have been able to accomplish over the years, enabling our Network to demonstrate dynamic growth and to engage in supporting several global health efforts, particularly in protecting people from infectious diseases in developing countries by supplying high-quality, affordable vaccines around the world.

Since its inception in 2000, DCVMN has grown at a fast pace and today represents more than 50 vaccine manufacturers. Still we have a long way to go. The current AGM is a great platform for us to ponder upon our priorities and challenges as developing countries manufacturers and also scope out our activities as a network and work towards more effective organizational strategies for the coming years. We must leverage our collective knowledge and organizational experience to bring actionable ideas to the table at this AGM.

I hope we make use of AGM as an opportunity to network, discuss challenges, and ideate to solve for some of them. Our collective discussions, views and opinions would shape the future of DCVMN and help us deliver more effectively on our goals and objectives.

I wish you all an enjoyable Annual General Meeting and wish you great success in 2017 and beyond.

Warm regards,

A handwritten signature in blue ink that reads "Mahima Datla". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mahima Datla
DCVMN President

EXECUTIVE COMMITTEE MEMBERS



Ms. Mahima Datla
President
Biological E. Limited, India



Mr. Alexander Roberto Percioso
Vice President
Instituto Fundacao Butantan, Brazil



Mr. Fernando Lobos
Treasurer
Sinergium Biotech, Argentina



Mr. Sai D Prasad
Bharat Biotech International Limited, India



Ms. LingJiang Yang
China National Biotech Group, China



Mr. Patrick Tippoo
The Biovac Institute, South Africa



Mr. Juliman
GAVI Board Alternate
Bio Farma, Indonesia



Dr. Steven Gao
Xiamen Innovax Biotech Co. Ltd., China



Mr. Adar Poonawalla
GAVI Board Representative
Serum Institute of India Ltd., India



Dr. Sonia R Pagliusi
Executive Secretary
DCVMN International

Member Organizations' Geographical Presence

	Argentina
	Bangladesh
	Brazil
	Cuba
	Egypt
	India
	Indonesia
	IR of Iran
	Mexico
	Pakistan
	P.R. China
	Republic of Korea
	Saudi Arabia
	South Africa
	Taiwan
	Thailand
	Vietnam



Name of the company : **AMSON VACCINES AND PHARM (PVT.) LTD.**

Head of Institution : **MR. SHAMIM AHMED KHAN**

Established : **1995**

Location : **Pakistan**

Overview of the company

Amson Vaccines & Pharma (Pvt.) Ltd. is one of the leading pharmaceutical companies of Pakistan with the distinction of being the only one in the private sector that is licensed to manufacture vaccines. In addition to vaccines, we also manufacture various pharmaceuticals that are available throughout Pakistan through our distribution network. We are regular supplier of our products to Government Programs and Institutes. We provide jobs to above 950 personnel who are involved from production to selling / marketing of our products.



Vaccine being our especiality our interest in vaccine delivery system is quite natural. We have set up a plant for the manufacturing of Auto Disable Syringes in Pakistan and four of our designs have been approved by World Health Organization by sale to UNICEF and other UN Agencies.

Our aim is to make Pakistan self sufficient in vaccine production and are in discussion with Government of Pakistan for this purpose.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Imatet Injection	Tetanus Toxoid Vaccine	Vial / Ampoule	0.5 ml / 5 ml / 10 ml
Amvax B Injection	Recombinant Hepatitis B Vaccine	Vial / Ampoule	0.5 ml / 1 ml / 5 ml / 10 ml
Typbar Injection	Polysaccharide Typhoid Vaccine	Ampoule	0.5 ml
Polyvalent Anti Snake Venom Serum	Anti snake Venom Serum (Liquid) (Indo – Pak Sub Continent)	Vial	10 ml

Future Product Pipe Line

- Pentavalent Vaccine
- Anti Tetanus Serum
- Seasonal Influanzae Vaccine

The material will be imported in bulk ready to fill or concentrate form and filled at our facility.

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- J. V. for vaccine manufacturing
- Rabies Vaccine (import and manufacturing)
- BCG Vaccine (import and manufacturing)
- MMR Vaccine (Import and manufacturing)
- Export of Auto Disable Syringes

Contact Details

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Postal code	: 44000		



Name of the company : **Arab Company for Pharmaceutical Products (Arabio)**

Head of Institution : **Dr. Majed Saeed Bahatheq** (Arabio CEO)

Established : **Arabio is a limited liability company established in 2005**

Location : **Saudi Arabia**

Overview of the company

Arabio is a biopharmaceutical company specialized in human vaccines, and other biopharmaceuticals.

It is the first biopharmaceutical company in the Gulf Cooperation Council (GCC). The size and scope of activities intended to be made in Arabio would make Arabio the first biological company of its kind in the Middle East.



Arabio aims to bring to the markets of the Middle East, North Africa, and high quality products that comply with the international quality standards.

Arabio has production lines of pre-filled syringes, liquid vials and lyophilized vials from the best global machines suppliers to make high quality products and meet cGMP & international standards.

Description of ARABIO capabilities

- Biological sterile manufacturing
- PFS and vial filling
- PFS and vial blister packaging

Arabio Partners:

1. Novartis Vaccine
2. GSK Vaccines
3. InterVax Vaccine
4. BioFarma, Indonesia
5. AbbVie
6. J & J
7. Bioton, Poland

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Cervical Cancer HPV		PFS	
Hepatitis B Pead		Vial	
Hepatitis A Pead		Vial	
Hexa vaccine (DTaP, Polio, HiB, HepB)		PFS	
(DTaP, HiB)		PFS	
(DTaP)		PFS	
(DTaP)		PFS	
Rota Virus		PFS	
Pneumococcal		PFS	
(DTaP) adult		PFS	
Hep. B adult		Vial	
Hep. A adult		Vial	
Meningococcal conjugate ACWY vaccine		Vial	
Penta Vaccine (DTwP, HiB, HepB)		Vial	
Sesonal Influenza Vaccine		PFS	
BCG		Amp	
Tuberculin		Vial	
Oral Polio Vaccine (trivalent) 10 ds		Vial	
Tetanus Toxoid (TT) vaccine 10 ds		Vial	
Diphtheria-Tetnus (DT) Pediatric vaccine		Vial	
Humira		PFS	
Survanta		Vial	
Sevoflurane		Bottel	
Resperdal Consta		Vial	
Velcade		Vial	

Future Product Pipe Line

- MMR
- Varicella
- MMRV
- Dengue Fever vaccine
- RSV

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

Vaccines:

- MMR
- Varicella
- MMRV
- Dengue Fever vaccine
- RSV

Biological Products:

- Insulin
- Protein kinas inhibitor
- Blood coagulation
- Anti TNF products
- Hormonal contraceptive
- Heparins
- Growth hormones
- Erythropoietin
- MAB antineoplastic
- Interferons

Contact Details

Name of contact person

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State

:

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Website

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Postal code

: 11516





Name of the company : **Beijing Minhai Biotechnology Co., Ltd.**

Head of Institution : **Dr. Zheng Haifa, General Manager**

Established : **2004**

Country : **P.R. China**

Overview of the company

Beijing Minhai Biotechnology Co.,Ltd.(referred to as "Minhai") is a modern biotechnology enterprise specialized in vaccine R&D, production and distribution. Minhai's mission is to provide safe, stable and affordable vaccines; increase immunization coverage, reduce the incidence of infectious disease and mortality; protect human health.

Minhai was founded in June 2004, with a registered capital of 500 million RMB and a total asset of 900 million RMB, at No.35 Si Miao Road ,Bioengineering &Pharmaceutical Industrial Park,Daxing District,Beijing, which has a leading R&D center and a modern vaccine manufacturing site composed of over 60,000 m² GMP compliant workshops, equipped with advanced large-scale bacteria vaccine production line and virus vaccine production line. Until 2017, there are three commercialized vaccine products in China, including Hib conjugate vaccine, MR vaccine and DTaP-Hib vaccine. DTaP-Hib vaccine, which is independently developed by Minhai, is the first domestic tetravalent vaccine.

There are over 20 vaccines in Minhai's pipeline (from pre-clinical trial to NDA), including pneumococcal conjugate vaccine,HDCV rabies vaccine, sabin IPV and meningitis conjugate vaccine etc.



In the meantime of developing novel vaccines, Minhai initiated international registration and accelerated the process of export. From 2013, Minhai has started the registration of three marketed products in more than 15 countries including Uzbekistan, Pakistan, India, Russia and the Philippines, and initiated WHO prequalification preparation. Minhai is enlarging multi-angle, multi-level international collaboration, and extensively promote globalization strategy.

Minhai is collaborating and competing with world class vaccine enterprises, working hard to share Minhai's safe, stable and affordable vaccines with all human beings around the world.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Hib	Hemophilus Influenae type b vaccine	Vial	0.5ml
DTaP-Hib	Diptheria, Tetanus, accellular Pertussis, and Hemophilus Influenae type b combined vaccine	Vial	0.5ml+0.5ml
MR	Measles and Rubella combined vaccine	Vial	Lyophilized
HepB	Hepatitis B vaccine	Vial	10µg,20ug,60ug

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
23-valent Pneumococcal Polysaccharide Vaccine				NDA	2018
ACYW135Meningococcal Polysaccharide Vaccine				NDA	2018
HDCV Rabies(cell factory)				NDA	2018
DTaP					2018
Hib (Lyo)				NDA	
13-valent Pneumococcal Conjugate Vaccine					
Inactivated HepA					
ACYW135 Meningococcal conjugate Vaccine					
sIPV		Clinical Trial approval received			
Varicella		Clinical Trial approval received			
Cholera(Oral)		Clinical Trial approval received			
DTaP-Hib (lyo hib)		Clinical Trial approval received			
Recombinant HepB(Hansenula)		Clinical Trial approval received			
HDCV rabies (Bioreactor)		Clinical Trial approval received			
DTcP-Hib-sIPV combined Vaccine					
Ev71					
DTcP					
15-valent PCV					
5-valent Rotavirus					
Zoster					
H7N9 influenza					
Quadrivalent HPV					
HSV					
Tuberculosis					
H1N1 Influenza					
Group B Meningitis					

Areas of Interest for Collaboration

- Technology Transfer
- Vaccine Co-development
- Overseas Registration and Distribution

Contact Details

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 Website : **http://www.biominhai.com**



Name of the company : **Beijing Tiantan Biological Products Co., Ltd.**

Head of Institution : **Mr. Zeng Lingbing, General Manager**

Established : **1998**

Location : **P.R. China**

Overview of the company

Beijing Tiantan Biological Products Co., Ltd. (abbreviated as TiantanBio) is a state-controlled listed corporation for high technology, engaging in research, manufacturing and marketing of biological products such as vaccines, blood derivatives and diagnostic kits. It's a spin-off company from National Vaccine & Serum Institute (NVSII) and became public listed in the China Shanghai Stock Exchange since 1998. TiantanBio owns several subsidiary companies, such as Chengdu Rongsheng Pharmaceutical Co., Ltd., Changchun Keygen Biological Products Co., Ltd., and several serum sampling companies. Now China National Biotec Group Company Limited is its controlling shareholder. At present, TiantanBio has more than 2200 staffs, including a batch of influential senior technical personnel working in the field of R&D, manufacturing and quality assurance.



TiantanBio has the most complete portfolio of vaccines in the National Immunization Program. The leading products are Hepatitis B Vaccine (Yeast Recombinant), Attenuated Measles Mumps and Rubella Combined Vaccine Live, Attenuated Measles and Rubella Combined Vaccine Live, Diphtheria Tetanus and Acellular Pertussis Combined Vaccine Adsorbed, Poliomyelitis Vaccine in Dragee Candy (Human Diploid Cell) Live, Japanese Encephalitis Vaccine (Vero Cell) Inactivated, Attenuated Freeze-dried Varicella Vaccine Live, Influenza Vaccine (Spilt Virion) Inactivated, H1N1 Influenza A Vaccine (Spilt Virion) Inactivated, Human Albumin, Human Immunoglobulin (pH4) for Intravenous Injection, Human Immunoglobulin and so on.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
TEMREVAC	Hepatitis B Vaccine made by Recombinant DNA Techniques in Yeast	Ampoule	0.5ml , 1.0ml
	Yellow Fever Vaccine, Live	Vial	6 doses 0.3ml
	Influenza Vaccine (Split Virion), Inactivated	Injector /Vial	0.5ml
RUBEVAC	Rubella vaccine, Live (Human Diploid Cell)	Vial	0.5ml
	Japanese Encephalitis Vaccine (Vero Cell), Inactivated	Vial	0.5ml
	Measles, Mumps and Rubella Combined Vaccine, Live (M/R/MR/MMR)	Vial	0.5ml
	Poliomyelitis Vaccine in Dragee Candy (Human Diploid Cell), Live	Pill	1g
Shengdoushi	Freeze-dried Live Attenuated Varicella Vaccine	Vial	0.5ml
Trivac	Diphtheria, Tetanus and Acellular Pertussis Combined Vaccine, Adsorbed (DTaP)	Ampoule	0.5ml
	Group A Meningococcal Polysaccharide Vaccine	Vial	10 doses 300µg
	Typhoid Vi Polysaccharide Vaccine	Ampoule	2 doses 1 ml
	Anti-human T Lymphocyte Rabbit Immunoglobulin	Vial	25mg
	Human Hepatitis B Immunoglobulin	Vial	100IU
	Human Albumin	Vial	10ml/25ml/50ml
	Human Immunoglobulin(pH4) for intravenous Injection	Vial	25ml/50ml
	Human Tetanus Immunoglobulin	Vial	250IU

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Recombinant Interferon β 1b					
Meningococcal ACWY Vaccine (Polysaccharide)					
Meningococcal A+C Conjugate Vaccine					
MMR+ Varicella Vaccine					
Pertussis component vaccine					
Inactivated Poliomyelitis Vaccine					

Areas of Interest for Collaboration

- Combined Vaccine
- Large-scale Production Technology
- Quality System
- New Antigen

Contact Details

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email : ttbiozyc@yahoo.com.cn

Website: http://www.tiantanbio.com



Name of the company : **Bharat Biotech International Limited**

Head of Institution : **Dr. Krishna M. Ella**

Established : **1996**

Country : **India**

Overview of the company

Bharat Biotech was founded in 1996 by Dr. Krishna Ella and Mrs. Suchitra Ella, with focus on developing and manufacturing novel vaccines and biologics. The company has fully integrated expertise in Research & Development, Product Development, Clinical Development, GMP Manufacturing, Quality Management Systems, Marketing, Sales and Distribution. Bharat Biotech is a WHO Prequalified manufacturer of BIOPOLIO® for supply to UN Agencies. ROTAVAC® and TYPBAR-TCV® are currently under the WHO Prequalification process. ROTAVAC® is being supplied to additional States of India in a phased manner for the Universal Immunization Program. These innovative vaccines reaffirm our focus on product development for developing world countries.



Bharat Biotech has a long history of developing novel health care solutions with focus on developing world populations. Vaccines against Zika and Chikungunya infections are now in the Phase I human clinical trials. Bharat Biotech has filed more than 50 patents worldwide with tradition of developing and respecting IPR. With globally accredited facilities, Bharat Biotech supplies its products to more than 100 countries.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Revac-B+®	Hepatitis B Vaccine (rDNA)	Vial	0.5/1.0/5.0/10.0 mL
Revac-B® mcf	Recombinant Hepatitis B (rDNA) Vaccine , (Thiomersal free)	Vial/PFS	0.5 /1.0 mL
INDIRAB®	Purified Inactivated Rabies Vaccine	Vial	0.5 /1.0 mL
TYPBAR®	Typhoid Vi Capsular Polysaccharide Vaccine	Vial/PFS	0.5/2.5/5.0 mL
JENVAC®	Japanese Encephalitis Vaccine, Inactivated (Adsorbed)	Vial/PFS	0.5/2.5 mL
HNVAC®	H1N1 Pandemic Flu Vaccine	Vial	0.5/2.5 mL
BIO-HIB®	Haemophilus influenzae (PRP-TT Conjugate), Lyophilized Type b, Conjugate Vaccine	Vial	Lyophilized powder
Typbar-TCV®	Typhoid Vi Capsular Polysaccharide – TT conjugate vaccine	Vial/PFS	0.5 /2.5 mL
ROTAVAC®	Rotavirus 116E Vaccine (Live attenuated, Oral) IP/BP	Vial	0.5/2.5/5.0 mL
BIOPOLIO B1/3®	Bivalent Polio Vaccine (Live) IP/BP	Vial	2.0 mL
ComVac® 3	Diphtheria, Tetanus and Pertussis (whole cell) Vaccine (Adsorbed)	Vial/PFS	0.5 mL
ComVac 4®-HB	Diphtheria, Pertussis (w), Tetanus, Hepatitis-B (DTwP+Hep-B) Vaccine	Vial	0.5 mL
ComVac® 5	Diphtheria, Pertussis(w), Tetanus, Hepatitis-B (DTwP+Hep B+Hib) & Haemophilus influenzae Vaccine, (Pentavalent Vaccine)	Vial/PFS	0.5/2.5/10.0 mL
REGEN-D	r- Human Epidermal Growth Factor Gel	Tube	7.5/15/30 µg
REGEN –D® 60	r- Human Epidermal Growth Factor Gel 60 µg/gm	Tube	60 µg
REGEN –D® 150	r- Human Epidermal Growth Factor Gel 150 µg/gm	Tube	150 µg
SLVRGEN®	Recombinant Human Epidermal Growth Factor Silver Sulfadiazine & Chlorhexidine Gluconate Cream	Tube	15/30 g
BIOGIT®	Saccharomyces boulardii (Granular) 250 mg, oral	Sachet	850 mg

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Zika					
Chikungunya vaccine					
Tetanus Toxoid (Meat free)					
Malaria PVR II					
THR 100					
Lysostaphin Topical					

Areas of Interest for Collaboration

- Development of novel vaccines for neglected diseases
- Development of novel therapeutics

Contact Details

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Postal code	: 500 078		



Biological E. Limited
Celebrating Life Every Day

Name of the company : **Biological E. Limited**

Head of Institution : **Ms. Mahima Datla, Managing Director**

Established : **1953**

Country : **India**

Overview of the company

Biological E Ltd (BE) is established in the year 1953 in Hyderabad, India. Over the years, we have built up a very significant share in the world of vaccine market, especially in the pediatric range. Our company is a major supplier to the National Immunization Programme (EPI programme) of the Government of India, UNICEF and Pan American Health Organisation. BE envisages becoming a major world player in vaccine business by expanding the product range, market access, improving infrastructure through investments, increasing manufacturing and development capabilities and marketing agreements.



BE achieved WHO Prequalification status for various vaccines viz. Tetanus, Pentavalent (DTP-HepB-Hib), Japanese Encephalitis, DTP and Td. BE is the first company in the world to get WHO prequalification for Japanese Encephalitis vaccine.

As part of continuous efforts to develop new products for human use, BE is currently engaged in development and commercialization of several recombinant, conjugate, bacterial & viral vaccines. BE has productive partnerships with several well respected and renowned Institutions and Public Health Services across the world for joint development of new products to fulfill the unmet needs of India and other regions countries.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation
ComBE Five	Pentavalent vaccine - Liquid Diphtheria, Tetanus, Pertussis, Hepatitis B and Haemophilus type B conjugate vaccine (DTwP-HepB-Hib)	Vial (Liquid)	1, 2, 5 & 10 dose
ComBE Five	Pentavalent vaccine - Lyophilized Diphtheria, Tetanus, Pertussis, Hepatitis B and Haemophilus type B conjugate vaccine (DTwP-HepB+Hib)	Vial (Liquid + Lyophilised)	1, 2, 5 & 10 dose
BETT	TT Adsorbed Tetanus Vaccine	Vial Ampoule	1, 10 and 20 dose Single dose
TRIPVAC	DTwP Diphtheria, Tetanus and Pertussis vaccine (adsorbed)	Vial	1 & 10 dose
BE Td	Td Diphtheria and Tetanus vaccine (Td) (for adolescents & adults)	Vial	1 & 10 dose
JEEV	JE Japanese Encephalitis Vaccine, Inactivated (Strain SA14-14-2 propagated on Vero cell line)	Vial	3 mcg / 0.5 ml 6 mcg / 0.5 ml
BI VAC	DT Adsorbed Diphtheria & Tetanus vaccine (for Pediatric)	Vial	1, 10 & 20 dose
BEVAC	Hepatitis B Hepatitis B vaccine (recombinant)	Vial	1, 2, 5 & 10 dose Pediatric and 1 & 10 dose Adult
TRIPVAC HB	Tetavalent DTP-HepB Diphtheria, Tetanus, w-Pertussis, Hepatitis B (recombinant)	Vial	1, 2, 5 & 10 dose
HIBE	Hib Haemophilus type b conjugate vaccine (lyophilized)	Vial (combipack)	1, 2, 5 & 10 dose

• Products in bold letters are who pre-qualified

Future Product Pipe Line

- MR – Measles & Rubella
- Hexavalent -DTP-HepB-IPV-Hib
- PCV - Pneumococcal Conjugate Vaccine
- TCV - Typhoid Conjugate Vaccine
- IPV – Inactivated Polio Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- ·Vaccines – Bulk & Finished
- ·Long term partnership arrangements

Contact Details

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Postal code	: 500 033	Web site:	: www.biologicale.com
Country	: India		



Name of the company : **Bio Farma**

Head of Institution : **Juliman, Production Director**

Established : **August 6, 1890**

Country : **Indonesia**

Overview of the company

Bio Farma is a state-owned vaccine and antisera manufacturer in Indonesia and it plays a vital role in supporting the National Immunization Program. All of vaccines needed by Government are supplied by Bio Farma. The company has an extensive and strong major goal to responsibly endure its high quality vaccine production whilst holding the awareness to persistently develop the green industry by covering all the aspects of the green industry's activities.

Bio Farma was established in 1890 and throughout its extended history, the company has gone a long way from its beginning and has proven its strength to the world. This reputation has always been upheld properly and could be reflected from its magnificent qualification and ability to acquire WHO prequalification for its vaccines.



Bio Farma's products are exported to many countries through the direct distribution or UN agencies. Bio Farma actively involve in various international organizations such as WHO, International Vaccine Institute, DCVMN, GAVI and Self Reliance in Vaccine Production-in OIC.

In order to stimulate more breakthroughs ahead, the company pledge to conduct new products research, both independently or collaborate with research institutions. The partnership could lead to new vaccine development or new technology platform.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
TT	Tetanus Toxoid Vaccine	Vial Uniject	5.0 ml/10.0 ml 0.5 ml
Bio-TT	Tetanus Toxoid Vaccine	Ampoule	0.5 ml
DT	Diphtheria and Tetanus Vaccine	Vial	5.0 ml
Td	Tetanus and Diphtheria Vaccine (for adult)	Vial	5.0 ml
DTP	Diphtheria, Tetanus and whole -cell Pertussis Vaccine	Vial	5.0 ml
DTP-HB	Tetavalent Combination Vaccine	Vial	2.5 ml/5.0 ml
HB	Hepatitis B Vaccine	Uniject	0.5 ml 1.0 ml (for adult)
mOPV, bOPV	Monovalent, bivalent Polio Vaccine	Vial	2.0 ml
Measles	Measles Vaccine	Vial	10 doses/20 doses
BCG	Tuberculosis Vaccine	Ampoule	20 doses
Flubio	Seasonal flu Vaccine	Vial	0.5 ml/2.5 ml
DTP-HB-Hib (Pentabio)	Diphtheria, Tetanus, Whole-cell Pertussis, Hep-B and Haemophilus Influenzae type b	Vial	0.5 ml/2.5 ml/5.0 ml

Future Product Pipe Line

- Sabin-IPV (sIPV)
- Rotavirus Vaccine
- Flu Vaccine (Pandemic)
- Measles Rubella Vaccine
- Typhoid Conjugate Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Sabin-IPV (sIPV)					
Rotavirus Vaccine					
Flu Vaccine (Pandemic)					
Measles Rubella Vaccine					
Typhoid Conjugate Vaccine					

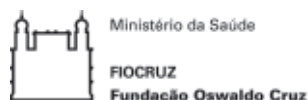
Areas of Interest for Collaboration

- Capacity Building
- QMS Training
- Research
- Product Development & Process Innovation
- Marketing & Distribution

Contact Details

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Name of the company : **Bio-Manguinhos – Immunobiologicals Technology Institute**
The Oswaldo Cruz Foundation – Ministry of Health

Head of Institution : **Maurício Zuma**

Established :

Country : **Brazil**

Overview of the company

The Immunobiological Technology Institute - Bio-Manguinhos is a federal laboratory for R&D and production of immunobiologicals in Brazil, created in 1976.



Bio-Manguinhos is a technical-scientific unit of the Oswaldo Cruz Foundation (Fiocruz), which is directly linked to the Brazilian Ministry of Health.

This unit plays a strategic role in its national public health scenario, supplying a range of products - among vaccines, biopharmaceuticals, IVD reagents and services. Thereby, Bio-Manguinhos contributes to the enhancement of the Brazilian Unified Health System (SUS).

Moreover, the Institute has two vaccines prequalified by WHO: Yellow fever and polysaccharide meningitis AC, the first one having already been supplied to more than 70 countries around the world, mainly through the United Nations Agencies.

Bio-Manguinhos has a wide experience with national and global partnerships for co-development and technological transfer processes, and is open to new partnerships with a view to the provision of new biotech products to the population.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Vaccines			
DTP + Hib	<i>Diphtheria, Tetanus, Pertussis and Haemophilus influenza type b</i>	5 doses/vial	2.5 ml
Hib	<i>Haemophilus influenza type b</i>	1 and 5 doses/vial	0,5 and 2,5 ml
MMR	<i>Measles, Mumps and Rubella</i>	10 doses/vial	5,0 ml
MMRV	<i>Measles, Mumps, Rubella and Varicella</i>	1 dose/vial	0,5 ml
OPV	<i>Oral Poliomyelitis</i>	25 doses/tube	2,5 ml
IPV	<i>Inactivated Poliomyelitis</i>	10 doses/vial	5,0 ml
Rotavirus	<i>Rotavirus vaccine</i>	1 dose/vial	2,0 ml
10 – valent Pneumococcal	<i>10 – valent Pneumococcal vaccine</i>	1 dose/vial	0,5 ml
Polysaccharide Meningitis AC	<i>Polysaccharide Meningitis AC vaccine</i>	10 doses/vial	1,5 ml
Yellow Fever	<i>Yellow Fever vaccine</i>	5, 10 and 50 doses/vial	0,5, 1,0 and 25 ml
IVD Reagents			
NAT HIV/HCV/HBV	Molecular Biology NAT Assay HIV/HCV/HBV	96 reactions/kit	-
ZDC (Zika, Dengue and Chikungunya)	Molecular Biology Assay for Zika, Dengue and Chikungunya	90 reactions	-
Imunoblot DPP® HIV ½	Rapid Test – Imunoblot DPP® HIV ½	20 tests/kit	-
DPP® HIV ½	Rapid Test – DPP® HIV ½	20 tests/kit	Oral-fluid or serum/plasma/ whole blood
DPP® Syphilis	Rapid Test – DPP® Syphilis	20 tests/kit	-
DPP® Syphilis DUO	Rapid Test – DPP® Syphilis (Non treponemic and treponemic in the same test)	20 tests/kit	-
DPP® HIV / Syphilis Combo	Rapid Test - DPP® HIV / Syphilis Combo (HIV + Syphilis detection in the same test)	20 tests/kit	-
DPP® Canine Leishmaniasis	Rapid Test – DPP® Canine Leishmaniasis	20 tests/kit	-
DPP® Leptospirosis	Rapid Test – DPP® Leptospirosis	20 tests/kit	-
DPP® Zika	Rapid Test – DPP® Zika	20 tests/kit	-
Chagas Disease IFA	Immunofluorescence – Chagas Disease	600 tests/kit	-
Canine Leishmaniasis ELISA	ELISA – Canine Leishmaniasis	384 tests/kit	-
Human Leishmaniasis IFA	Immunofluorescence – Human Leishmaniasis	600 tests/kit	-
Helm Test	Kato Katz – Helm Test	100 tests/kit	-

PS: DPP® = Dual Path Platform.

Biopharmaceuticals		3, 5 and 10 MUl/vial	
Interferon alpha 2b	Interferon alpha 2b recombinant	2.000 / 4.000 / 10.000 UI/vial	1,0 ml
Erythropoietin	Erythropoietin recombinant	200 U/ vial	1,0 ml
Alfatiglicerase	Taliglucerase alfa	100 mg/vial	5,0 ml
Infliximab	Infliximab	22 and 44 mcg/ prefilled	100 mg
Betainterferon 1-a	Betainterferon 1-a recombinant	syringes	0,5 ml

Future Product Pipe Line

- Conjugate Meningitis C Vaccine
- Conjugated Multivalent Meningitis Vaccine
- Dengue tetravalent vaccine (inactivated)
- Zika vaccine
- Yellow fever vaccine improvement (attenuated)
- Yellow fever vaccine (inactivated)
- Yellow fever vaccine (plant-based vaccine)
- Measles and Rubella vaccine
- Peginterferon Alpha 2b
- Humanized monoclonal antibody Anti-MRSA
- Flex NAT Assay HIV/HBV/HCV
- NAT Assay HIV/HBV/HCV + new targets (ex: malaria)
- Liquid Microarray
- Chikungunya rapid diagnostic test

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Bacterial vaccines	-	-	-	1	-
Viral vaccines	4	1			-
Biopharmaceuticals	1			1	-
IVD reagents	4			1	-

Areas of Interest for Collaboration

- Prokaryotic expression
- Eukaryotic expression
- Conjugation
- Plant based

Contact Details

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Name of the company : **BioNet-Asia Co., Ltd.**

Head of Institution : **Mr. Vitoon Vonghangool**, President
Dr. Pham Hong Thai, Chief Executive Officer

Established : **2001**

Location : **Thailand**

Overview of the company

BioNet-Asia is an independent vaccine company with a focus on technological innovation and market access.

BioNet has built several strategic alliances fostering vaccine self-reliance leading to the production and supply of billions of doses of vaccines worldwide. In its vaccine manufacturing plant in Thailand, BioNet is developing a broad pipeline of vaccines in R&D and clinical stages, such as recombinant Pertussis, CRM197 protein carrier, Dengue and Hepatitis B vaccines. The company has successfully transferred the technology in Asia to produce Hib meningitis vaccine which is now commercialized and pre-qualified as a pentavalent vaccine. BioNet has also filed a patent application for a new

Recombinant Acellular Pertussis Vaccine that has been shown safe and highly immunogenic in a Phase I/II study. BioNet has several collaborations with first-class biopharmaceutical companies, vaccine manufacturers and academic organizations around the globe.

With a global market reach and network expertise, BioNet has been supporting vaccine manufacturers in their rapid expansion into international and emerging markets, finding and capitalizing on new growth opportunities.

Through its unique collaboration with many manufacturers, BioNet can propose a broad portfolio of vaccines in several countries.



Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Hib*	<i>Haemophilus influenzae</i> type b vaccine in combined pediatric formulation		
TRCS Rabies*	Rabies vaccine	Vial	0.5mL

*In partnership

Future Product Pipe Line

- Recombinant acellular pertussis (aP) vaccine
- Adult combinations (TdaP based vaccines)
- Hepatitis B vaccine (HBV)
- Pediatric combinations
- Dengue vaccine
- Human papillomavirus vaccine (HPV)
- Japanese Encephalitis vaccine
- Chikungunya vaccine
- Protein carriers

Product Name	Product development R&D phase	Pre Clinical	Clinical			Expected launch date Quarter / Year
			Phase 1	Phase 2	Phase 3	
Recombinant acellular Pertussis vaccine						
Adult combination vaccine						
<i>Haemophilus influenzae</i> type b vaccine						Already transferred the technology and launched the product in Asian country

Areas of Interest for Collaboration

- Marketing and Distribution of vaccines
- Vaccine joint development and R&D collaborations
- Technology transfer for Hib, HBV, HPV, Rabies
- In- and out-licensing opportunities

Contact Details

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Name of the company : **BravoVax Co., Ltd**

Head of Institution : **Dr. Ke WU, Chief Executive Officer**

Established : **2012**

Country : **P.R.China**

Overview of the company

Established in year 2012, BravoVax is a private pharmaceutical company specialized in development, production and commercialization of human vaccines. It is situated at Wuhan, a large modern city in central China. BravoVax is committed to supply safe, effective and affordable vaccines to protect the vast population in the developing world from various infectious illnesses.

The current product pipeline includes vaccines against bacterial and viral diseases. The first vaccine product of the company, a tetravalent attenuated oral rotavirus vaccine, was sublicensed from USA in 2014 and is expecting to enter the clinical trial phase in 2017.



BravoVax currently possess a R&D and pilot production facility with four vaccine technology platforms and two pilot production lines. The company has established the quality system as per WHO cGMP requirement. In addition, a state-of-the-art industrial-scale facility is being planned with a capacity of 100 million doses per year, which will not only meet the domestic needs, but also to enable the company to provide vaccine supply to the large populations in developing countries.

BravoVax has established active partnership with various renowned academic institutions worldwide. The company strategy is to collaborate with the global health community on the development of vaccines to address unmet healthcare needs.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml

Future Product Pipe Line

- Rotavirus Vaccine
- Pneumococcal Vaccine
- Respiratory Syncytial Virus Vaccine
- Zika Virus Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Rotavirus Vaccine					2020
Pneumococcal Vaccine					2021
Respiratory Syncytial Virus Vaccine					2023
Zika Virus Vaccine					2022

Areas of Interest for Collaboration

- Vaccines targeting diseases responsible for high rates of mortality and morbidity in developing countries
- Therapeutic biologicals that targeting diseases with high social and economic burdens in both established and emerging markets
- Technologies improving the vaccine accessibility and affordability in developing world settings

Contact Details

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Name of the company : **CPL BIOLOGICALS PRIVATE LIMITED**



Head of Institution : **Mr. Atin Tomar, President & CEO**

Established : **2009**

Country : **India**

Overview of the company

Based in Ahmedabad, India, CPL Biologicals Pvt. Ltd. is a joint-venture biotechnology company established in 2009 by Novavax Inc., USA and Cadila Pharmaceuticals Limited, one of India's largest privately held pharmaceutical companies. CPL Biologicals has a three pronged approach to providing novel solutions for global healthcare - vaccines, biologics and diagnostics, with integrated capabilities from early stage research and development to clinical and commercial manufacturing along with dedicated sales and marketing teams. CPL Biologicals has established state-of-the-art R&D and

manufacturing facilities in Dholka, Gujarat (India), which currently has the capability of producing up to 25 million doses every year.



CPL Biologicals aims to be a leading provider of high quality novel vaccines, biologics and diagnostics through world-class research and innovations combined with cost effective and efficient manufacturing to address current and future global health challenges.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Cadiflu (Pandemic Influenza Vaccine)	VLP based H1N1 Vaccine	Vial	0.5 ml
Cadiflu-S (Seasonal Influenza Vaccine)	VLP based Trivalent Influenza vaccine	Vial	0.5 ml

Future Product Pipe Line

- Rabies single dose Vaccine
- Quadrivalent Influenza Vaccine
- Varicella Zoster Virus Vaccine
- Pancreatic Cancer Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Rabies 3 dose Vaccine					Q1/2018
Pancreatic Cancer Vaccine					
Rabies single dose Vaccine					
Varicella Zoster Virus Vaccine					

Areas of Interest for Collaboration

- Development and adoption of new products and technologies through Partnerships
- Recombinant proteins and Monoclonal antibodies for therapeutic use
- Vaccines for commercialization by CPL Biologicals
- In licensing /out licensing

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Name of the company : **Center for Research and production of Vaccine and Biological (POLYVAC)**

Head of Institution : **Dr. Nguyen Dang Hien, Director**

Established : **24 January 1994**

Location : **Hanoi, Vietnam**

Overview of the company

Center for Research and Production of Vaccines and Biologicals (POLYVAC) was established in 1994 by the Ministry of Health of Vietnam with the task of carrying out experimental research, application of new technologies for production of Vaccine and biological products

From the end of 1962, the Division of Sabin's Oral Polio Vaccine Production of the NIHE was able to produce 2 million doses of oral polio vaccine for children of North Vietnam. With the great efforts of all professionals and staff, with unity and self sufficiency spirit in



order to fulfill the assigned tasks and duties, the quantity of vaccine produced by the Center has increased every year up to 40 million doses, meeting the national vaccination demand for eventual recognition in 2000 by WHO that Vietnam was polio free.

Besides the production of OPV, Center also conducts research and produces other vaccines such as: IPV, Rotavirus vaccines and Measles vaccines meets GMP/WHO with technology transferred by Japan. At present, Measles vaccine has been licensed. Since 2010, Vietnam will stop importing measles vaccine, while being active in preventing and controlling measles as recommended by WHO. The Rotavirus vaccine is has been licensed also from 2012.

Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
Oral polio vaccine	Tetravalent, live, attenuated oral vaccine	Vial	2ml/20 doses/vial
Measles Vaccine	Freeze-dried, live attenuated vaccine. AIK-C Strain	Vial	5ml/10 doses/vial
Rotavirus vaccine	Live attenuated oral vaccine. Human strain G1P[8]	Vial	2ml/1 dose/vial

Future Product Pipe Line

- Rubella
- Measles-Rubella combine vaccine
- Inactivated Polio vaccine
- bOPV

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
bOPV					Q4 /2015
MR					Q4 /2016
IPV					Q3 /2016

Areas of Interest for Collaboration

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Name of the company : **Changchun BCHT Biotechnology Co.**

Head of Institution : **Dr. Kong Wei**

Established : **March, 2004**

Location : **P.R. China**

Overview of the company

Changchun BCHT Biotechnology Co., a biopharmaceutical enterprise specializing in research, development, production and marketing of vaccines, biologics and peptide & chemical drugs, was established in March 2004.

BCHT has well-established innovative platform and extensive cooperative network. Each year the company invests considerable amount of money from the sales into R&D for innovative and qualified healthcare products, and the sum of R&D investment exceeds over 100 million RMB for the last few years. BCHT owns among the most advanced R&D laboratories and pilot plants for vaccines, gene engineering biologics and peptide drugs in China. The facilities, in area over 5000m² and with



more than 500 sets of instruments and equipments

As a fast-growing enterprise, BCHT not only focuses on the domestic market but also aims at exploring international market and business opportunity. The company has established successively trade cooperation with partners in areas such as Southeast Asia, the Middle East, Africa and South America etc. The registration for BCHT products has been undertaken in many countries. The company has taken part in government purchase in various countries and won the bidding successful. BCHT has started to export its products to international market since 2009.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Varicella Vaccine, Live	gelatin-free, validity for 36 months, lyophilized, Oka strain	Vial	0.5ml/vial
Rabies Vaccine (Vero Cell) for Human Use	Produced with microcarrier bioreactor, with high potency not less than 2.5IU	Vial	1.0ml/vial

Future Product Pipe Line

- Acellular DTP Vaccine
- Live Attenuated InfluenzaVaccine
- HPV Vaccine
- AIDS Vaccine
- RSV Vaccine
- VZV Vaccine
- Cancer Vaccine
- EV71 Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Acellular DTP Vaccine	—				2016
Live Attenuated InfluenzaVaccine	—				2016
HPV Vaccine	—				2018
AIDS Vaccine			—		
RSV Vaccine	—				
VZV Vaccine	—				
Cancer Vaccine	—				
EV71 Vaccine	—				

Areas of Interest for Collaboration

- Vaccines
- Peptide and chemical drugs
- Biologics
- Export

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Name of the company : **China National Biotec Group Company Limited (CNBG)**



Head of Institution : **Dr.Xiaoming YANG, Chairman**

Established : **1989**

Country : **P.R. China**

Overview of the company

CNBG has been dedicated in the field of healthcare since 1919. It's the largest biopharmaceutical company in China in terms of its product portfolio, production capacity and company scope. It runs 6 business sectors including human vaccines, blood products, animal health, medical aesthetics, diagnostics and antibody. CNBG can produce 34 kinds of vaccines against 24 human infectious diseases with annual output of 700M doses. It is the major supplier to Chinese EPI program. It is also the largest blood producer in China, with more than 1000 tons of plasma collection capability. It is the only botulinum toxin producer in China and the first Chinese company pre-qualified by WHO. CNBG currently owns 1 innovative vaccine R&D center, 6 human vaccine manufacture sites, 2 animal vaccine manufacture sites and 1 diagnostic company. It is the major shareholder of Beijing Tiantan Biological Products Co., Ltd which is a public company.

CNBG has nearly 10,000 employees, more than 700 scientists. The total asset has reached 3 Bn USD in 2016 and the total revenue has reached 900 Mn USD.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
	Hepatitis B vaccine (yeast)	Ampoule	5,10,20 µg
	BCG vaccine for intradermal injection	Ampoule	0.25mg/5doses
	bOPV live attenuated (human diploid cell)	vial	1ml, 20doses/vial
Shanliantai	Diphtheria Tetanus and Acellular Pertussis combines(DTaP), Adsorbed	Amouple/vial	0.5ml
	Measles, Mumps and Rubella combined vaccine, Live(M/R/MR/MM/MMR)		
RS.JEV	Japanese Encephalitis Vaccine Live	vial	0.5ml
Menglingkang	Group A+C Meningococcal Polysaccharide vaccine	Ampoule	100µg/dose,400µg/4doses
	Group A Meningococcal Polysaccharide vaccine	ampoule	150µg/5doses, 300µg/10doses
Havac	Live attenuated Hepatitis A vaccine	Vial	1ml
	Split Influenza virus vaccine	Injector/vial	0.25ml, 0.5ml
Huiyikang	23 Valent Pneumococcal Polysaccharide vaccine	vial	0.5ml
Loutewei	Live Rotavirus Vaccine (oral)	vial	0.5ml
Keerbe	Haemophilus Influenza type b conjugate vaccine	Vial	0.5ml
Shengdoushi	Freeze-dried Live attenuated Varicella vaccine	Vial	0.5ml
Wushengxinning	Rabies Vaccine for human use(vero cell)	Vial	0.5ml X 5vial /dose
	Yellow Fever Vaccine, Live	Vial	0.5ml
	Typhoid Vi Polysaccharide vaccine	ampoule	1ml/2doses
Sentaibao	Tick- Borne Encephalitis Purified Vaccine	ampoule	1ml
	Human Albumin	Vial	2g,5g,10g,12.5g
	Human Immunoglobulin (pH4) Intravenous Injection	Vial	1.25g, 2.5g,5g
LANTOX	Botulinum Toxin A for injection	Vial	50IU,100IU,
	Murine Monoclonal Antibody Anti-Human CD3 antigen of T Lymphocyte		5ml
Yiweile	Ev71 vaccine	Vial	0.5ml

Future Product Pipe Line

Product Name	Pre Clinical	IND Filed	Phase 1	Clinical Phase 2	Phase 3	Expected launch date Quarter / Year
Beijing Strain Varicella Live Attenuated Vaccine						
Trivalent Reassortant Rotavirus Vaccine						
Typhoid Vi Conjugate Vaccine						
Blood coagulant factor VIII						
Rabies immunoglobulin						
Tetavalent flu						
Group A+C Meningococcal Conjugate Vaccine						
ACYW135 Meningococcal Polysaccharide Conjugate						
Hexavalence Rotavirus Vaccine						
13-valent Pneumococcal Conjugate Vaccine						
Recombinant Hexavalent Human Papillomavirus						
sIPV						
Lyophilized Herpes Zoster Inactivated Vaccine						
Measles, Mumps, Rubella and Varicella Combined Vaccine Live (MMRV)						
DTaP+Hib						

Areas of Interest for Collaboration

- Antibody, oncology
- Combined Vaccine
- Tumor vaccine
- Novel adjuvant, vector
- New antigen
- New cell substrate
- Reverse genetics
- Formulation

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Name of the company : **EuBiologics Co.,Ltd.**

Head of Institution : **Dr. Yeong-Ok Baik, CEO**

Established : **March 10, 2010**

Country : **Republic of Korea**

Overview of the company

EuBiologics Co., Ltd. is a Korean biopharmaceutical company providing contract research and manufacturing services to domestic and international clients, in addition to building a portfolio of vaccines designed to improve global public health. The company was established in March 2010 with the objective of becoming a preferred strategic partner providing solutions for the development and manufacturing of biopharmaceutical products and went public on the KOSDAQ in Jan 2017. EuBiologics's facilities are designed to manufacture a variety of mammalian cell and microbe-derived, protein-based therapeutics and antibodies. It provides customized services for various stages of product development, including cell line development, "Good Manufacturing Practice" (GMP) production, validation and regulatory support.



The company has also licensed the manufacturing technology necessary to produce an oral cholera vaccine from the International Vaccine Institute. In parallel with the development of its oral cholera vaccine product ("Euvichol"), EuBiologics is pursuing a number of other vaccines against diseases such as typhoid fever, pneumonia and meningitis.

The company's administrative headquarters is in Seoul and its manufacturing facilities are located in a biotechnology cluster in Chuncheon, Korea. For additional information about the company, please visit <http://www.eubiologics.com/ENG/>.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Euvichol®	Oral Cholera Vaccine	Vial	1.5 ml
Euvichol-Plus®	Oral Cholera Vaccine	Plastic Tube	1.5 ml

Future Product Pipe Line

- Typhoid Conjugate Vaccine
- Pneumococcal Conjugate Vaccine
- Meningococcal Conjugate Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Typhoid conjugate vaccine					
Pneumococcal Conjugate Vaccine					
Meningococcal Conjugate Vaccine					

Areas of Interest for Collaboration

- Development of bacterial conjugate vaccines
- Development of combo vaccines
- New adjuvant development and application to bacterial vaccines
- Virus Like Particle (VLP) based vaccine development

Contact Details

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Name of the company : **Finlay Institute**
Head of Institution : **Dr. Concepción Campa Huergo**, President / General Director
Established : **27th Ave No. 19805, La Coronela La Lisa, Habana City**
Location : **Cuba**

Overview of the company

The FINLAY INSTITUTE, founded in 1991, is a scientific organization, dedicated to research, development, production and commercialization of human vaccines, internationally recognized in this field. This institution is a world leader in the field of meningococcal vaccine and other classic vaccines included in the Extended Immunization Program (EIP). VA-MENGOC-BC®, created and produced by the Finlay Institute was the first effective vaccine against serogroup B meningococcus.



The almost 1000 members of Finlay's staff constitute the largest capital of Finlay Institute and they have been recognized for their experience in the field of vaccines, more than 60% of them have high technical and professional qualification in the field of vaccine research, development, production and quality control. Many of them have more than 20 years of experience in these specialties, which guarantees the preparation and continuity of the projects with the inclusion of new talents graduated from the universities.

The facilities engaged in the production of vaccines and active pharmaceutical ingredients were designed, built, equipped and they are operated according to cGMP. Some products manufactured in these facilities have been prequalified by WHO.

Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
VA-MENGOC-BC®	Meningococcal BC vaccine	Vial	0.5/2.5/5.0 ml
vax-MEN-AC®	AC Meningococcal polysaccharide vaccine	Vial	5.0 ml
vax-MEN- ACW ₁₃₅ ®	Meningococcal ACW ₁₃₅ vaccine	Vial	5.0 ml
vax-SPIRAL®	Trivalent leptospirosis vaccine	Vial	0.5/5.0ml
vax-TyVi®	Vi polysaccharide typhoid vaccine	Vial	0.5/5.0/10.0 ml
vax-TET®	Tetanus vaccine	Vial	0.5/5.0/10.0 ml
VA-DIFTET®	Diphtheria-Tetanus vaccine for children	Vial	0.5/5.0/10.0 ml
dT-vax®	Diphtheria-Tetanus vaccine for adults	Vial	0.5/5.0/10.0 ml
DTP-vax®	Diphtheria- Tetanus-wPertussis vaccine	Vial	0.5/5.0/10.0 ml

Future Product Pipe Line

- Cholera vaccine (attenuated)
- Plain ACYW₁₃₅ meningococcal vaccine (porcine components free)
- AW₁₃₅ OMV vaccine
- Plain polysaccharide Vi Vaccine (porcine components free)
- Plain ACYW₁₃₅ X meningococcal vaccine
- AW₁₃₅ X OMV vaccine
- Conjugated Vi polysaccharide vaccines
- Conjugated Meningococcal ACYW₁₃₅ X vaccine
- Onco BCG

Product Name	Pre	Clinical	Expected launch date		
	Phase 1	Phase 2	Phase 3	Quarter / Year	
Cholera vaccine (attenuated)					
Plain ACYW ₁₃₅ meningococcal vaccine (porcine components free)					
AW ₁₃₅ OMV vaccine					
Plain polysaccharide Vi Vaccine (porcine components free)					
Plain ACYW ₁₃₅ X meningococcal vaccine					
AW ₁₃₅ X OMV vaccine					
Conjugated Vi polysaccharide vaccines					
Conjugated Meningococcal ACYW ₁₃₅ X vaccine					
Onco BCG					

Areas of Interest for Collaboration

- Cooperated manufacturing
- Vaccine technologycal transfer
- Bacterial vaccines development based on outer membrane vesicles and based on capsule polysaccharides
- Application of novel adjuvants based on serogroup B Neisseria meningitidis outer membrane vesicles and proteoliposome-derived cochleate structure for vaccine development

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Name of the company : **Fundação Ataulpho de Paiva**
Head of Institution : **Germano Gerhardt Filho**
Established : **1900**
Location : **Brazil**

Overview of the company

Fundação Ataulpho de Paiva (FAP) is a nonprofit, philanthropic private institution founded in 1900 and was named Brazilian League Against Tuberculosis. FAP has been promoting scientific advances and producing BCG Moreau Rio de Janeiro vaccine strain since 1930. FAP activities are based on production, research and social assistance programs. The Brazilian Ministry of Health has given competence to the Fundação for manufacturing, importing, exporting, stocking, distribution and repackaging of drugs, raw materials and dietary products.



BCG Moreau Rio de Janeiro is one of the four BCG vaccines considered as Reference Reagent by the World Health Organization (WHO). In 2012 the Moreau strain was studied by 16 laboratories from 13 countries certified by WHO.

The high immunogenicity and low side effects of the Brazilian vaccine have been demonstrated. The genome sequence and proteome analysis of the strain were also studied.

In 2006 IMUNO BCG® was launched in Brazil. It was developed from The BCG Moreau Rio de Janeiro strain. It is used for the treatment of superficial bladder cancer.

Currently, FAP has a new factory under construction to increase the production according to Good Manufacturing Practices (GMP). The institution is also researching for advances in the development of tuberculosis drugs.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
BCG	BCG Vaccine	Vial	1mg/10 doses
IMUNO BCG	IMUNO Therapy	Vial	40mg/Intrabladder

Future Product Pipe Line

Product Name	Pre Clinical		Clinical		Expected launch date Quarter / Year
	Phase 1	Phase 2	Phase 3	Phase 3	

Areas of Interest for Collaboration

Contact Details

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Name of the company : **GreenCross Corporation**

Head of Institution : **Il-Sup Huh**

Established : **1967**

Country : **Republic of Korea**

Overview of the company

Green Cross Corporation (GCC) is one of the leading research based biomedical and pharmaceutical companies in Korea. The corporate headquarter and R&D facilities are located in Yongin. GCC has 3 production plants. Since its establishment in 1967, GCC has pioneered in the field of biopharmaceuticals, such as vaccines, plasma-derivatives, diagnostics, recombinant proteins and therapeutic antibodies.



GCC has been well known for the R&D and commercialization of 'Hepavax B', a world's biggest selling hepatitis B vaccine, 'Hantavax', a world's first epidemic hemorrhagic fever vaccine, and 'Suduvax', a world's second chicken pox vaccine. Starting from the nation's first Albumin production in 1971, it currently manufactures more than 12 plasma fractions including immunoglobulin, anti-hemophilic factors, and anti-thrombin factor. Manufacturing over 250 diagnostic reagents in 41 items, GCC is the leader in the nation's diagnostic reagent sector. Recent innovations include 'rhFVIII (GreenGene™)', a recombinant human coagulant factor VIII and a complete flu pipeline including seasonal flu vaccine (GCFLU®), H1N1 vaccine, avian flu vaccine as well as flu therapeutics, Peramivir. GCC is also pursuing opportunities in rare diseases

developing therapies for Hunter syndrome (Hunterase™) which is world 2nd, and is designated as orphan drug by MFDS.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
GC Flu Quadrivalent Inj.	Generic name: Split virion inactivated Influenza Vaccine, quadrivalent A sterile suspension containing influenza virus which is propagated in the allantoic fluid of embryonic chicken egg.	pre-filled syringe	0.5ml
GC FLU	Generic name: Split virion inactivated Influenza Vaccine A sterile suspension containing influenza virus which is propagated in the allantoic fluid of embryonic chicken egg.	pre-filled syringe	0.5ml, 0.25ml
Japanese Encephalitis Vaccine-GCC inj.	Generic name: Inactivated Japanese Encephalitis Vaccine A sterile suspension containing Japanese Encephalitis virus of Nakayama strain inactivated by formalin	vial	0.5ml, 1ml
Varicella Vaccine – GCC inj.	Generic name: Live attenuated Varicella Vaccine A freeze-dried, live attenuated varicella-zoster vaccine. When reconstituted, the product is a transparent suspension of colorless or yellowish color	vial	0.7ml
Avian Influenza vaccine	Generic name: Prepandemic avian Influenza Vaccine A sterile suspension containing influenza virus which is propagated in the allantoic fluid of embryonic chicken egg.	vial	2.5ml

* More detailed information of GCC' full list of current product pipeline & future product pipeline is available at www.greencross.com.

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Varicella Zoster vaccine					
Anthrax vaccine					
TdaP vaccine					

Areas of Interest for Collaboration

- Development and marketing partnership for novel vaccine products
- Co-development and commercialization of biologics for rare disease(Hunter syndrome, Hemophilia A)
- In-Licensing partnership for novel oncology or orphan products
- In-Licensing partnership for novel technology

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Name of the company : **GreenSignal Bio Pharma Limited**

Head of Institution : **Dr. P. Murali (Managing Director)**

Established : **2007**

Country : **India**

Overview of the company

At a time when India is showing great progress as a destination for vaccine Research and Development, Manufacturing etc., GSBPL is all set to make the giant leap into the big league of vaccine manufacturing. GSBPL is now India's second and one of the only 5 WHO Pre-qualified BCG Vaccine manufacturers in the world. Vaccines manufactured by the GreenSignal Bio Pharma Limited are pre-qualified by the World Health Organization, Geneva and are being used in countries across the globe in their national immunization programs, saving millions of lives throughout the world. Our clientele include The Government of India, UNICEF, The Government of Nepal etc.



We also manufacture UROVAC, a BCG for Immunotherapy product for Bladder Cancer. UROVAC is being used globally as therapeutic agent against Bladder Cancer.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
BacilloVAX [®]	BCG Vaccine Freeze Dried (Live Attenuated)	Vial	1mg/vial strength (20 doses)
UROVAC [®]	BCG for Immunotherapy Freeze Dried (Live Attenuated)	Vial	40mg/vial strength

Future Product Pipe Line

- Tetanus Vaccine
- MMR Vaccine
- Anti Snake Venom
- Rabies Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- R&D
- Anti Venom Production

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Name of the company : **Haffkine Bio-Pharmaceutical Corporation Limited**
Head of Institution :
Established : **1974**
Location : **India**

Overview of the company

The Haffkine Bio-Pharmaceutical Corporation was incorporated in 1974, aiming to take-up and expand the production of the erstwhile Haffkine Institute and to manufacture standard biological and non-biological products of public health importance. The Company established a subsidiary Company in 1977 viz. Haffkine Ajintha Pharmaceuticals Ltd at Jalgaon, producing tablets, capsules, powders, ointments etc.

Haffkine is engaged in the manufacture and supply of biological and non-biological products especially bacterial and viral vaccines, antisera, toxoids, injectables and pharmaceuticals in the pursuit of its mission of "Service to Mankind in the Health Care Sector".

The Company has contributed significantly towards the universal immunization and the Polio Eradication Programme, launched by the Government of India, ensuring timely supply of Oral Polio Vaccine (OPV) in sufficient quantity.

The Company has WHO-GMP prequalification for its Oral Polio Vaccines (mOPV1, bOPV(1&2) and tOPV) for supply to UNICEF.

Haffkine timely and adequately supplies all its products at affordable prices to all the Public Health Institutions of Government of Maharashtra.

Specific initiatives are underway for meeting the demands for the lifesaving drugs in other States, as well as in other countries. The Company plans to increase vaccine/antibodies production and diversify into the manufacture of newer vaccines of social relevance.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
tOPV	trivalent Oral Polio Vaccine	Vial	2.2 ml (20 doses)
bOPV(1&3)	Bivalent Oral Polio Vaccine	Vial	2.2 ml (20 doses)
mOPV(1)	Monovalent Oral Polio Vaccine	Vial	2.2 ml (20 doses)
ASVS	Anti Snake Venom Serum	Vial	10 ml
AScVS	Anti Scorpion Venom Serum	Vial	10 ml
ARS	Anti Rabies Serum 300 IU/ml	Vial	5 ml
ADS	Anti Diphtheria Serum 10000IU	Vial	5 ml
ATS	Anti Tetanus Serum 1500IU/ml	Ampoule	1 ml

Future Product Pipe Line

- Tissue Culture Anti Rabies Vaccine (TCARV)
- AGGS

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- Measles
- Hep B
- HiB
- IPV
- Pneumococcal vaccine

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Name of the company : **HLL Biotech Limited**

Head of Institution : **Mr. R. P. Khandelwal, Chairman**
Mr. Raman K Ramachandran,
Director and Chief Executive Officer

Established : **2012**

Country : **India**

Overview of the company

HLL Biotech Limited (HBL) is a 100% subsidiary of HLL Lifecare Limited (HLL), under the Ministry of Health and Family Welfare, Government of India (GoI). As mandated by GoI, an Integrated Vaccines Complex (IVC) is being established by HBL in Chennai, India for manufacturing various vaccines required for immunization programme.

The objective of HBL is to manufacture and supply quality vaccines at an affordable price to support the immunization programme. The Integrated Vaccines Complex project is in the commissioning & validation phase to start the manufacturing of various vaccines. IVC has been designed and engineered as per the latest GMP guidelines to meet international quality requirements.



In the mean time HBL has started manufacturing and marketing of "HIVAC-B" (Hepatitis B) and "PENTAHIL" (DPT-HepB-Hib) vaccines. The other vaccines are in various phases of development for manufacturing at IVC.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
HIVAC B	Hepatitis B vaccine ; recombinant	Vial (Liquid)	0.5/1.0/5.0/10.0
PENTAHIL	Liquid Pentavalent – Diphtheria, whole cell Pertussis, Tetanus, Hepatitis B, Haemophilus influenzae type b	Vial (Liquid)	0.5/5.0

Future Product Pipe Line

- Rabies vaccine
- BCG vaccine
- Measles vaccine
- Measles- Rubella vaccine
- Japanese encephalitis vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- Technology transfer & process development
- Bulk antigen supply
- Collaborative research and development of new generation vaccine
- Vaccine export
- Designing, engineering and construction of cGMP compliant vaccine facility projects
- WHO pre-qualification

Contact Details

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Name of the company : **Incepta Vaccine Ltd**

Head of Institution : **Mr. Abdul Muktadir**

Established : **2009**

Country : **Bangladesh**

Overview of the company

Incepta Vaccine Limited (IVL), a sister concern of Bangladesh Leading Pharmaceutical company, Incepta Pharmaceuticals Ltd started its Journey in 2009 with the objective to provide quality affordable vaccines to Bangladesh as well as globe. In last seven years of its journey, IVL is able create a huge impact on Vaccine world and has let least developed countries to dream of having their own vaccine production plants to cater their own need as well as the global need. The yearly capacity of IVL is 180 million single dose.



IVL started its collaboration with certain International organizations and the first product through this collaboration is developed and is under last Phase of clinical trials. The product, oral Cholera Vaccine was developed with support from International Vaccine institute, Korea and IVL has capacity to produce around 36 million doses of OCV.

IVL has planned to produce all the available vaccine presently in world and some new generation vaccines and to achieve its dream it has set up separate Fill Finish, Bacterial Bulk antigen, Viral Bulk Antigen, Bacterial and Viral Research and Development facilities. These facilities are

equipped with the latest line of equipment and well trained manpower in biological field.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Hepa B Adult	r- DNA Recombinant Hepatitis B Vaccine for adult	Vial	1.0 ml (Single Dose)
Hepa B Pediatric	r- DNA Recombinant Hepatitis B Vaccine for adult	Vial	1.0 ml (Single Dose)
Ravix-VC	Vero Cell based Rabies Vaccine	Vial	Lyophilized(1.0 ml) Single Dose
Ingovax ACWY	<i>Neisseria meningitides</i> Group A,C, Y and W135 Polysaccharide Vaccine	Vial	Lyophilized(0.5 ml) Single Dose; Lyophilized(5.0 ml) Ten Doses
Influvax	Seasonal Influenzae Vaccine	Vial	0.5 ml (Single Dose)
Vaxitet	Adsorbed Tetanus Vaccine	Vial/Ampoule	0.5 ml (Single Dose) 5.0 ml (Ten Doses)
Rubavax-M	Measles and Rubella Vaccine	Vial	Lyophilized(0.5 ml) Single Dose
Vaxphoid	Typhoid Polysaccharide Vaccine	Vial	0.5 ml (Single dose)
Vaxitet-IG	Tetanus Antitoxin (Equine)	Vial	1ml (Each ml more than 3000 IU)

Rabix-IG	Rabies immunoglobulin	Vial	5 ml (Each ml more than 1500 IU)
Antivenom	Polyvalent Snake venom antiserum	Vial	10 ml (Lyophilized)
Protet-IG	Human Tetanus Immunoglobulin	Vial	1 ml (Each ml more than 250 IU)

Future Product Pipe Line

- Varicella Vaccine
- 23 Valent Pneumococcal Polysaccharide Vaccine
- 13 Valent Pneumococcal Conjugate Vaccine
- Human Papilloma Vaccine
- Rota Virus Vaccine
- IVIG
- Bivalent Oral Cholera Vaccine
- Typhoid Conjugate Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Varicella Vaccine					Q4/2016
Pneumococcal Polysaccharide Vaccine					Q1/2017
Pneumococcal Conjugate Vaccine	To Be started Jan, 2017				Q3/2018
Human Papilloma Virus Vaccine	To Be started March, 2017				Q3/2018
Rota Virus Vaccine	Under Development				Q1/2019
IVIG					Q4/2017
Bi Valent Oral Cholera Vaccine				Undergoing	Q1/2018
Typhoid Conjugate Vaccine		To be started by Nov, 2018			Q3/2018

Areas of Interest for Collaboration

- Conjugation Technologies
- Bulk antigen supplies
- Development of Rota Virus Vaccine
- Any other new Generation Vaccines & Biological

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Name of the company : **Indian Immunologicals Limited**

Head of Institution : **Dr.K.Anand Kumar, Managing Director**

Established : **1982**

Country : **India**

Overview of the company

National Dairy Development Board (NDDB) set up Indian Immunologicals Limited in 1982. IIL's veterinary and human vaccine manufacturing facilities are located at Hyderabad and Ooty in India.

IIL is a major player in the human vaccine market in India, focusing on the paediatric and rabies segment with its flagship product "Abhayrab". IIL is also a major supplier of vaccines to India's large Universal Immunization Programme.













IIL research efforts are directed at developing frontier technologies in biologicals, diagnostics and vaccines. Vaccines for tropical diseases which are of little interest to western countries, but very relevant for a country like India are a major focus of research. IIL has research collaborations with several reputed national and international institutes including NIH, CDC, GALVMED, Pirbright Institute etc.

IIL exports its products to more than forty countries across the world with customer focus in Middle East, Asia Pacific region, Africa and CIS countries.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Abhayrab	Vero cell culture Rabies vaccine	Freeze dried vial with diluent ampoule	0.5 ml and 1 ml
Elovac B	Recombinant Hepatitis B vaccine	Vial	0.5 ml, 1 ml, 5 ml and 10 ml
Abhay TAG	Diphtheria, Pertussis and Tetanus vaccine	Vial	0.5 ml and 5 ml
Abhay DAG	Diphtheria and Tetanus vaccine	Vial	0.5 ml and 5 ml
Abahy TOX	Tetanus vaccine	Vial	0.5 ml and 5 ml
Abhay RIG	Equine Rabies immunoglobulins	vial	5 ml

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Pentavalent vaccine (DPTH+HiB)					Q2/2017
Hepatitis A					Q4/2018
MR					Q3/2019
Typhoid Conjugate					Q3/2019
Chikungunya vaccine					Q2/2020
Dengue					Q1/2021

Areas of Interest for Collaboration

- IPV vaccine technology
- Varicella vaccine technology
- Rotavirus vaccine technology
- Pneumococcal conjugate vaccine

Contact Details

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Name of the company : **Instituto Biológico Argentino S.A.I.C**

Head of Institution :

Established :

Country : **Argentina**

Overview of the company

INSTITUTO BIOLÓGICO ARGENTINO S.A.I.C. BIOL is a private Argentinian company established in 1908. Since our origins, Biological products are a key factor in our development strategy. Currently, our core business is the development and manufacture of injectables, semi-solids and high-quality biological products.

BIOL manufactures, promotes and sells its own pharmaceutical and other licensed products from prestigious foreign companies. BIOL has a portfolio of vaccines, antitoxins and antivenoms registered and sold in Argentina, Bolivia, Paraguay, Perú, República Dominicana, Nicaragua, Honduras, Guatemala and Panama.



In addition, Biol holds agreements with different countries to develop and produce specific, tailor-made snake antivenoms for different regions: Central America, South America, Amazon Region and the United States. These products are not only for humans but also for veterinary use. In order to manufacture these products, BIOL has a segregated special unit in compliance with international standards.

Furthermore, BIOL has a highly motivated and experienced team in the biological field, knowledge in production of bacterial vaccines, expertise in quality control of biological

products and a broad and consolidate experience in collaborative international projects.

BIOL´s main goal is to help improve people´s quality of life providing effective and affordable drugs.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
TT Vaccine			
dTa Vaccine			
Polyvalent Snake Antivenom South America			
Polyvalent Snake Antivenom Central America			
Polyvalent Snake Antivenom (USA) Veterinary use			
Tetanus Antitoxins 3000 UI / 5000UI			

Future Product Pipe Line

- Polyvalent Snake Antivenom Amazonic Region
- Polyvalent Snake Antivenom for Africa

Product Name	Pre Clinical		Clinical		Expected launch date Quarter / Year
	Phase 1	Phase 2	Phase 3		

Areas of Interest for Collaboration

- Tecnology Transfer
- Vaccine Co-Development
- Overseas Registration and Distribution
- Development of novel therapeutics
- Combined Vaccines
- New Antigen Long term partnership In / Out-licensing opportunities Development & Process Innovation
- Purification of antivenoms

Contact Details

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1027



Name of the company : **Institute of Vaccines & Medical Biologicals (IVAC)**

Head of Institution : **Dr. Le Van Be**

Established : **October, 2012**

Location : **Vietnam**

Overview of the company

On November 23rd , 1978, the Ministry of Health made the decision to establish Institute of vaccines and biological substances (changed to INSTITUTE OF VACCINES AND MEDICAL BIOLOGICALS – IVAC from 2006) with functions and responsibilities as following:

- To plan and carry out the production of vaccines and serum, mainly to supply the Expanded Program on Immunization in Vietnam (EPI), and the others for prevention and treatment of diseases.
- To do research and apply technological advances in production and development of vaccines, serum and other biological substances.
- To co-operate with organizations in the country and abroad in the research and production of vaccines, serum and other biological substances, in order to expand production and raise their quality.



- To provide training to our staffs, to manage the allocated budget and state-owned property. Step by step to control the products and approach self - sustainability about outlay.

IVAC consists of 2 establishments:

- Nha Trang establishment, with an area of 3,946m2.
 - o Main establishment of IVAC
 - o Produce vaccines and medical biologicals
 - o Conduct scientific and applied research
- Suối Dầu breeding farm - with an area of 126 hectare, 22 kms from the Southern of Nha Trang
 - o breed testing animals serving research and quality control
 - o Raise horses for producing crude sera
 - o Produce food for cattle, microorganism fertilizer

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
BCG vaccine	Freeze dried vaccine against tuberculosis	Ampoule	10 doses/ampoule
DPT vaccine	Combination vaccines against diphtheria, pertussis and tetanus	Vial	10ml/vial
TT vaccine	vaccine composed of inactivated tetanus toxins - Multidose	Vial	10ml/vial
TT vaccine	vaccine composed of inactivated tetanus toxins - monodose	Ampoule	0.5ml/ampoule
SAT	Anti tetanus serum	Ampoule	1500IU/ampoule 1000IU/ampoule
SAR	Equine rabies immune globulin	Vial	1000IU/vial
SAV (SAV-naja ; SAV-tri)	Purified naja kaouthia antivenin and Purified trimeresurus albolabris antivenin	Vial	1000 LD50/vial
Im.BCG	BCG immunotherapy of bladder cancer	Ampoule	37.5mg/ampoule
Superferon	Interferon - 2b	Vial	3000000IU/vial

Future Product Pipe Line

- Pandemic Inactivated Monovalent Influenza Vacine (A/H5N1, A/H1N1, A/H7N9)
- Seasonal Splitted Trivalent Influenza Vaccine
- Acellular Pertussis Vaccine

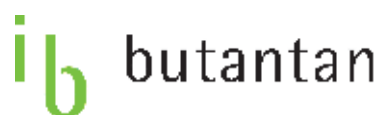
Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
A/H1N1 Influenza vaccine					
A/H5N1 Influenza vaccine					
A/H7N9 Influenza vaccine					
Seasonal Splitted Trivalent Influenza Vaccine					

Areas of Interest for Collaboration

- Consolidate, upgrade , apply advanced technique for main products of IVAC:
acellular pertussis vaccine, anti-serum, combo vaccines based on frame of DTP...etc
- Build up Suoi Dau breeding farm to be suitable for its potential.
- Upgrade testing animals: species, food, workshop, technical service, etc.
- Establish a laboratory room to meet the Good Laboratory Practice (GLP) standards
- Build the personnel organization based on new mechanism, agreeing with national strategy on local vaccine production.
- Join, and associate with both domestic and international institutes in researching on new products.
- Enhance both the quality and quantity of existing vaccines to progress exporting vaccines to foreign markets.
- Consolidate and upgrade the Quality Management system.
- Biologics, ie mAb, biosimilar, recombinant protein drugs

Contact Details

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Name of the company : **Instituto Butantan**

Head of Institution : **Jorge Kalil**

Established : **1901**

Location : **Brazil**

Overview of the company

Instituto Butantan is one of the most prestigious public scientific institutions in Brazil and internationally recognized for its outstanding biomedical research, production of immunobiologicals (vaccines and hyper immune sera) and diffusion of technical-scientific knowledge. The mission of the institution is to investigate, develop, manufacturer, and delivery high quality immunobiological products free of charge to the Brazilian population through the National Immunization Program / Ministry of Health. Instituto Butantan is currently responsible for the production of 40% of Brazil's sera and vaccines. In order to keep contributing with the Brazilian immunobiological self-sufficiency program and to improve nationally and internationally public health the Institute has strongly invested in internal R&D program, establishment of partnerships with national/international research institutions, and programs aiming at the incorporation of new technologies (Butantan and private companies partnerships). The Instituto Butantan has recently launched an internal preparation program aiming at the pre-qualification of its vaccines by World Health Organization. This initiative confirms the commitment of the Instituto to contribute not only to the Brazilian public health but also to the world.



Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Seasonal influenza vaccine	influenza trivalent vaccine (split and inactivated)	Vial	5ml
DTP	diphtheria, tetanus and pertussis (cellular) adsorbed vaccine (DTP)	Vial	5ml
dT	diphtheria y tetanus adsorbed vaccine (dT) - adults	Vial	5ml
DT	diphtheria y tetanus adsorbed vaccine (DT) - pediatric	Vial	5ml
Rabies	human rabies vaccine (inactivated)	Vial	1ml
Hepatitis B	adsorbed hepatitis B vaccine (recombinant)	Vial	5ml
HPV	recombinant	Vial	0.5ml

Future Product Pipe Line

- Tetravalent Dengue Vaccine
- Pertussis Low (cellular pertussis)
- Pentavalent Rotavirus Vaccine
- BCG-pertussis + HepB
- Onco-BCG (recombinant)
- Pneumococcal (cellular)
- 2nd Generation of Surfactant (porcine origin)
- Monoclonal antibodies
- dTap
- HPV (tetravalent)
- Hepatitis A
- Adjuvant Monophosphoryl Lipid A
- Adjuvant Silica

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Tetravalent dengue vaccine					2017/2018
Pertussis Low					2020
Pentavalent Rotavirus Vaccine					2020
BCG-pertussis + HepB					To be defined
Onco-BCG (recombinant)					
Pneumococcal (cellular)					To be defined
2nd Generation of Surfactant (porcine origin)					To be defined
Monoclonal antibodies	Technology Transfer Program (Libbs) rituximabe – Phase III clinical trial – expected launch 2017 bevacizumabe – Phase I clinical trial completed – expected launch 2021				
dTap	Technology Transfer Program (dT from Butantan and ap from GSK)				
Hepatitis A	Technology Transfer Program (MSD)				
HPV	Technology Transfer Program (MSD)				
Adjuvant Silica					To be defined
Adjuvant Monophosphoryl Lipid A					2020

Areas of Interest for Collaboration

- Combo vaccines
- Adjuvants
- Clinical Trials

Contact Details

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Name of the company : **Institute of Medical Biology, Chinese Academy of Medical Sciences**
Head of Institution : **Dr. Li Qihan**
Established : **1958**
Country : **China**

Overview of the company

Institute of Medical Biology, Chinese Academy of Medical Sciences (IMBCAMS) was founded in 1958, and it integrates basic medical research with the development and production of biological products. It is mainly involved in basic and applied research in the following fields: medical virology, immunology, genetics, molecular epidemiology, experimental zoology using primates and large-scale production of vaccines as well as immunological and genetic engineering products.

IMBCAMS is the oldest and largest research and production base for a series of poliomyelitis and hepatitis A vaccines, which has made great contributions to the control and eradication of poliomyelitis and played an essential role in decreasing the incidence of hepatitis A in China.



Prior to the solid theoretical base, rich research accumulation and professional talent teams gradually developed in the past over 50 years, as "WHO Collaborative and Research Center on Enteroviruses", "International S&T Cooperation Base of Development and Industrialization for Infectious Disease Vaccine of China", "National Torch Plan Key High-Tech Enterprise", "National Engineering Research Center of Biological Product on Virus Diseases", IMBCAMS has accumulated a solid extensive basis for applied basic research and development of new products, and has established an independent innovation system for vaccine research and development covering the whole industry chain of lab scale, pre-clinical, middle-scale, clinical, large-scale and post marketing surveillance. According to requirements of national infectious disease prevention and control system,

the new vaccines of the first oral poliomyelitis vaccine (Dragee Candy) in China, the first Attenuated Hepatitis A Vaccine all over the world, the first liquid-filled Attenuated Hepatitis A Vaccine over the world, the first Inactivated Poliomyelitis Vaccine made from Sabin Strain and Inactivated Enterovirus Vaccine Type 71 (Human Diploid Cell) all over the world has been supplied by IMBCAMS, which make it become as one of the vaccine product cooperation to achieve the target of new vaccine development from "Chinese made" to "China creation".

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
	Oral Live Attenuated Poliomyelitis Vaccine in dragee candy	Pill	1.0g
	Oral Live Attenuated Poliomyelitis Vaccine	Vial	1.0ml
Weisairuiji	Hepatitis A (Live) Vaccine, Freeze-dried	Ampoule	1.0ml
Aibiwei	Inactivated Poliomyelitis Vaccine Made From Sabin Strains	Ampoule	0.5ml
EntroVac	Enterovirus Type 71 Vaccine, Inactivated (Human Diploid cell)	Ampoule, Ayringe	0.5ml

Future Product Pipe Line

- Inactivated Influenza Virus Virolysis Vaccine
- Inactivated Japanese Encephalitis Purified Vaccine
- bOPV 1&3
- F-genotype Attenuated Mumps Vaccine
- Rabies Vaccine(Human Diploid cell)
- DTaP-sIPV Combined Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Inactivated Influenza Virus Virolysis Vaccine					
Inactivated Japanese Encephalitis Purified Vaccine					
bOPV 1&3					2017
F-genotype Attenuated Mumps Vaccine					
Rabies Vaccine(Human Diploid cell)					
DTaP-sIPV Combined Vaccine					

Areas of Interest for Collaboration

- Product export
- Vaccine development
- WHO pre-qualification

Contact Details

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Name of the company : **Laboratorios de Biológicos y Reactivos de México, S.A. de C.V. (BIRMEX)**

Head of Institution : **Luis Guillermo Ibarra Ponce de León**

Established : **in Mexico City since 1999. Birmex as an enterprise started in 1999 but, as part of the Ministry of Health, has over 100 years producing vaccines.**

Location : **Mexico**

Overview of the company

Birmex is a government-owned company that produces imports and commercializes vaccines, antivenoms and biological reagents.

Our personnel possess a vast expertise in biologics production, which combines with a stringent quality control of the production procedures. This expertise results in the successful updating of facilities, production procedures, and programs aimed to meet Good Manufacturing Practices as certified by the National Regulatory Agency.

Over the years, Birmex has evolved into a reliable guarantee of experience and know-how for its customers, incorporating into each product and service:

- The confidence of high quality
- The pledge of an end-to-end service with full tracking and control over shipments at all times, whether by land or air
- The security of on-time distribution to any point in the country - this because Birmex is the only laboratory that delivers to all Mexico's 32 states
- The innovation, competitiveness, honesty and integrity in each process focused on offering solutions that meet the customer's needs
- And finally, the assurance of being with a laboratory whose experience, market knowledge and degree of specialization today make it the leading vaccine manufacturer in Mexico and one of the three principal vaccine manufacturing countries in Latin America



Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
tOPV	Trivalent Sabin Oral Polio Vaccine	Dropper	2.0 ml (20 doses)
Td vaccine	Tetanus and Diphtheriattoxoids for adult	Vial	5.0 ml (10 doses)
Snake Antivenom	Freeze-dried to be reconstituted with 10 mL of Water for Injection as diluent This serum is made with venoms from the species <i>Crotalus basiliscus</i> and <i>Bothrops asper</i> , and it has also cross-reaction against venoms of the genus <i>Agkistrodon</i> and <i>Sistrurus</i>	Vial	10.0 ml (1 dose)
Scorpion Antivenom	Freeze-dried to be reconstituted with 5 mL of Water for Injection as diluent This serum is made with venoms from the genus <i>Centruroides</i> .	Vial	5.0 ml (1 dose)

Future Product Pipe Line

- Bivalent Oral Polio Vaccine (Types 1 and 3)
- DPwT with whole cell pertussis vaccine
- Tdpa with acelular pertussis vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Bivalent Oral Polio Vaccine (Types 1 and 3).					Q3 / 2016
DPwT					Q4 / 2017
Tdpa					Q4 / 2017

Areas of Interest for Collaboration

- Cell-culture based vaccines
- Scale-up process
- Plant design (industrial and pilot level)
- Technology transfer for vaccine production
- From bench to patient, vaccine development
- Rotavirus vaccine. Technology transfer
- Development and scaling up conjugated vaccines
- Characterization of snake venoms
- Characterization of scorpion venoms
- Purification of antivenoms

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State	: D.F.	email	: svillasenor@birmex.gob.mx
			international@birmex.gob.mx
Location	: Mexico	Website	: www.birmex.gob.mx
Postal code	: 03600		



Name of the company : **LG Chem, Ltd.**

Head of Institution : **Jin-Soo Park**

Established : **1947**

Country : **Republic of Korea**

Overview of the company

LG Chem (LG Life Sciences merged into LG Chem as of January 01, 2017) has developed and commercialized an array of pharmaceuticals for human and animal applications over the years. Especially for vaccines, LG Chem successfully developed hepatitis B vaccine (EUVAX B™ Inj.) which has been exported to more than 80 countries through UN-sponsored programs and represented the major portion of overseas sales. Further to hepatitis B vaccine, LG Chem successfully developed tetravalent DTP-based combined vaccines, DTwP-HepB(Euforvac™ Inj.) and Hib vaccine(Euhib™ Inj.), as a component of pentavalent vaccine by reconstitution with DTwP-HepB/Hib(Euforvac-Hib™ Inj.). In addition, LG Chem



developed a fully-liquid pentavalent vaccine(Eupenta™ Inj.), based on the accumulated technology and knowhow, for UN vaccine market. And year 2011, LG Chem is selected by WHO as one of tech transfer recipient of sabin IPV. Based on this new technology, LG Chem continues to develop hexavalent vaccine. Furthermore, LG Chem is developing PCV based on the conjugation technology collected during the development of Hib vaccine. Through the long development history on vaccines LG Chem accumulated a lot of experiences on vaccines and came to have very strong capability on vaccine development area. In the future, LG Chem will remain a leader in life sciences and biotechnology-value added areas that are knowledge intensive.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Euvax B™ Inj.	Recombinant Hepatitis B vaccine	Vial Liquid	0.5/1.0/5.0 ml
Euforvac™ Inj.	Adsorbed diphtheria, tetanus, whole cell pertussis & hepatitis B combined vaccine	Vial Liquid	0.5/1.0/5.0 ml
Euhib™ Inj.	Haemophilus influenzae type b vaccine	Vial Lyophilized	0.5/1.0 ml
Euforvac-Hib™ Inj.	Adsorbed diphtheria, tetanus, whole cell pertussis, hepatitis B and Haemophilus influenzae type b combined vaccine	Vial Lyophilized	0.5/1.0 ml
Eupenta™ Inj.	Adsorbed diphtheria, tetanus, whole cell pertussis, hepatitis B and Haemophilus influenzae type b combined vaccine	Vial Liquid	0.5/5.0 ml

* More detailed information of LG Chem' full list of current product pipeline & future product pipeline is available at www.lgchem.com.

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
LBVC (Polio virus vaccine)					
LBVD (Hexavalent vaccine)					
LBVE (Pneumococcal conjugate vaccine)					
LBEC0101 (Enbrel biosimilar)					
LBAL (Humira biosimilar)					
Zemiglo (Indication expansion for insulin combined therapy)					
LC280126 (Myocardial infarction)					
LC280126 (Anti-cancer supportive drugs)					
LC510255 (Inflammatory diseases)					
LC541239 (Type 2 diabetes)					
ZemiMet SR (Combination drugs for diabetes)					
ZemiStatin (Diabetes/Dyslipidemia)					
Highly cohesive Yvoire filler					

Areas of Interest for Collaboration

- Development and marketing partnership for novel vaccine products
- Marketing alliance for biologics, SR-hGH, EPO, rFSH, etc.
- Global marketing partnership or distributionship for HA (Hyaluronic acid) based products
- Global marketing partnership or distributionship for Fative®

Contact Details

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Mobile :

Fax : **+82 (0)2 6924 3694**

email : **kimhys@lgchem.com**

Website : **www.lgchem.com**



Name of the company : **Liaoning Cheng Da Biotechnology Co., Ltd (CDBIO)**

Head of Institution : **Ms. Zhang XiaoHua**, General Manager

Established : **2002**

Location : **P.R. China**

Overview of the company

CDBIO is an integrated biotechnology company engaged in R&D, manufacturing, distribution and sales of vaccine products. In 2002, the company introduced world's leading technology platform---"bioreactor and micro-carrier cell culture technology"---, from which the company has developed rabies vaccine and Japanese Encephalitis vaccine.

Until now, our products have been distributed in almost all over the China as well as more than 15 countries in international markets. According to the statistic data, totally more than 100 million doses of rabies vaccine for human use have been used for rabies prophylaxis during the last 7 years and there is no failure case reported after finishing the whole vaccination schedule. The inactivated Japanese Encephalitis vaccine (Vero cell) has also been launched since 2008 and now it has become a better choice for JE prevention. In 2012, the company built a new manufacturing facility following to the Current GMP regulations and it will come into use in 2013.



Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Rabies vaccine for human use	<ul style="list-style-type: none"> Perfusion Culture by Bioreactor and micro-carrier system Chromatographically Purified High Immunogenicity (>4.5IU/dose before lot release) High safety Preservative free, antibiotics free 	Vial	Liquid solution: 0.5ml/dose Lyophilized powder 0.5ml/dose after reconstitution
Rabies vaccine for veterinary use	<ul style="list-style-type: none"> Perfusion Culture by Bioreactor and micro-carrier system High Immunogenicity (2.0IU/dose) High safety Antibiotics free 	Vial	1ml/vial for one dose 5ml/vial for 5 doses
Inactivated Japanese Encephalitis Vaccine for human use	<ul style="list-style-type: none"> Perfusion Culture by Bioreactor and micro-carrier system Chromatographically Purified Preservative free, antibiotics free High safety High Immunogenicity 	Vial	Liquid solution: 0.5ml/dose Lyophilized powder 0.5ml/dose after reconstitution

Future Product Pipe Line

- Hemorrhagic Fever with Renal Syndrome Bivalent Vaccine
- Combined bacterial vaccine

Product Name	Pre Clinical		Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3		
Hemorrhagic Fever with Renal Syndrome Bivalent Vaccine						2014
Combined bacterial vaccine						2017

Areas of Interest for Collaboration

- We are seeking partnerships with large pharmaceutical company who are interested in developing biotech and vaccine products
- In-licensing Opportunity in China

Contact Details

Name of contact person : **Mr. Wu zhe**

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Website: **www.cdbio.cn**



Name of the company : **Medigen Vaccine Biologics Co.**

Head of Institution : **Dr. Stanley Chang (CEO/Chairman)**

Established : **October, 2012**

Country : **Taiwan**

Overview of the company

Medigen Vaccine Biologics Co. (hereinafter as MVC), founded in 2012, is devoted to develop innovative cell-based vaccine with state-of-the-art cell-culture technologies and cost-effective production using single-use systems. MVC has successfully established cell-based platforms for pandemic influenza H5N1, H7N9, and Enterovirus 71 vaccines. Currently, H7N9 and Enterovirus 71 vaccines are at the clinical development. Besides vaccine, MVC also extends the cell-based technology to develop biosimilar, anti-Respiratory Syncytial Virus (RSV) mAb by working with UCAB and other partners.

Furthermore, to ensure adequate supply of high quality vaccines, MVC is establishing a first PIC/S GMP certified cell-based



vaccine plant in Taiwan. The construction is completed and pilot production is likely to be initiated in 2017. The factory is equipped with two production lines, one for viral vaccines and another for mAb. During pandemic, MVC's factory is able to manufacture sufficient vaccines by switching mAb production line to manufacture viral vaccines using adjustable HVAC system. The designed production capacity is up to ten million doses per year.

MVC commits not only to supply the vaccine for Taiwan people, but also provide vaccines globally to

contribute to the human health care in the near future.

Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml

Future Product Pipe Line

- Enterovirus 71 (EV71) Vaccine
- Pandemic Influenza Vaccine
- Seasonal Influenza Vaccine
- Anti-RSV mAb

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Ev71 Vaccine					
H7N9 Influenza vaccine					
Anti-RSV mAb					

Areas of Interest for Collaboration

- Joint development for novel cell-based vaccines & biologics
- Marketing and distribution of vaccines & biologics
- In licensing / out licensing
- Biologics, ie mAb, biosimilar, recombinant protein drugs

Contact Details

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Name of the company : **National Administration of Laboratories & Institutes of Health Anlis “Dr. Carlos G. Malbrán”**

Head of Institution : **Dr. Gustavo Ríos**

Established : **1996**

Location : **Argentina**

Overview of the company

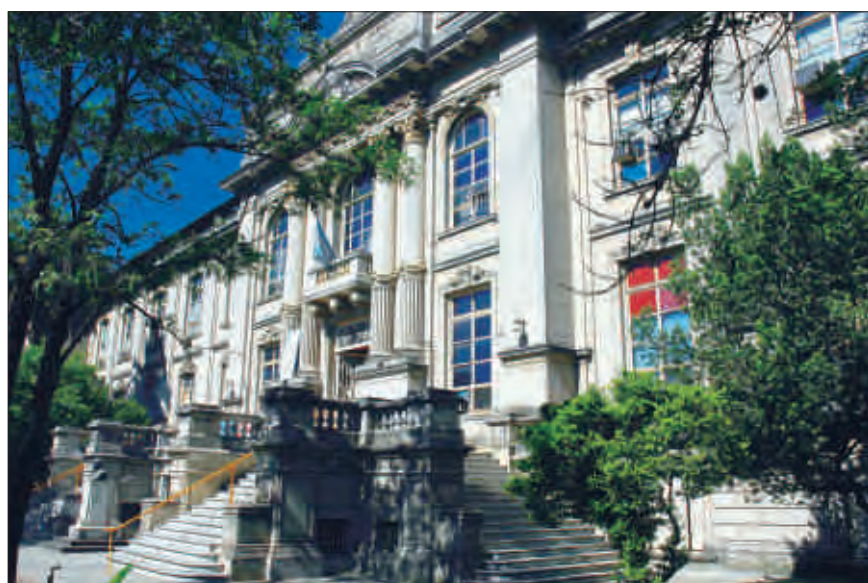
The National Administration of Laboratories and Institutes of Health ANLIS “Dr. Carlos G. Malbrán” agency dependent of The Secretary of Policy, Regulation and Institutes of the Ministry of Health of Argentine Nation nucleates eleven institutes and centers located in different places in our country (all of them of recognized performance in their areas of competence).

Its fundamental function understands in science and technical policy associated with various substantive aspects of actions in public health. The Institutional Plan recognizes 6 strategic areas:

1. Research and Technological Development in Health.
2. Health Surveillance and outbreak control.
3. Prevention and Control Disease Programs.
- 4. Production and Supply of Health Strategic Inputs.**
5. Education and Training of Health Human Resources.
6. Information and Communication in Health.

Planned activities in the Production and Supply of Strategic Inputs Area will focus to achieve more equitable access (regarding availability and prices) to technologies and essential medical supplies, with guaranteed quality, safety, effectiveness and cost effectiveness and to promote reasonable and effective use according to their costs.

The global products portfolio of interest includes: viral and bacterial vaccines, immunotherapies (antidotes and antitoxins sera), diagnosis kits and reagents, inputs for reference and proficiency tests sera panels and reference biological standards, biopharmaceuticals and strategic medicines and laboratory animals.



Current Product Pipeline

Product Name		Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Candid # 1		Virus Junin live attenuated vaccine against Argentine Hemorrhagic Fever	10 doses Vial	Lyophilized
Viper venom antiserum, Bothrops bivalent			vial	10.0 ml
Viper venom antiserum, Bothrops tetravalent			vial	10.0 ml
Viper venom antiserum, Crotalus durissus terrificus			vial	10.0 ml
Viper venom antiserum, Micrurus pyrrhocryptus			vial	5.0 ml
Spider venom antiserum, Loxosceles SP			vial	5.0 ml
Spider venom antiserum, Latrodectus SP			vial	2.0 ml
Scorpion venom antiserum, Tityus trivitattus			vial	2.0 ml
Rabies vaccine, FP, human use			vial	2.0 ml
Rabies vaccine, FP, veterinary use			vial (multidose)	50.0 ml
Tuberculin purified protein derivate, human use			vial (multidose)	3.0 ml
BCG for immunotherapy			vial	5.0 ml
Serotyping antisera (Enterobacteriaceae & Vibrio cholerae)			vial	Miscellaneous volumes
Tetanus toxoid – API			N/A	N/A
Diphtheria toxoid – API			N/A	N/A
Pertussis (cellular component) – API			N/A	N/A

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Yellow Fever Vaccine					Implementation of a Quality System training to staff ANLIS in Argentina November 2011
dT vaccine – Diphteria and Tetanus vaccine					Adaptation, renovation and design of the productive areas of the components or API's (used to produce DTP and dT) and acquisition of necessary equipment and instrumentation Execution of the work of the filling and packaging plant and submission a file that includes all equipment and instruments needed in the plant. 2011
DTP vaccine – Diphteria, Tetanus and Pertussis vaccine					
Pentavalent vaccine DTP-HB/Hib					In technology transference management

Kits for diagnosis use: Rotavirus, *Neisseria meningitidis*, *Streptococcus pneumonie*, Toxoplasmosis, Chagas, Leptospirosis, Brucellosis, etc.

Areas of Interest for Collaboration

- Production technologies
 - Quality Control
 - Quality Assurance
 - Management
 - Good Manufacturing Practices
 - Clinical trials
 - Ethical issues
- Vaccine development
 - Vaccine patents politics
 - Regulatory issues

Contact Details

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Name of the company : **National Institute of Infectious Diseases and Vaccinology**

Head of Institution : **Ching-Len Liao, Ph.D.**

Established : **May 2011**

Country : **Taiwan**

Overview of the company

The National Institute of Infectious Diseases and Vaccinology (NIIDV) is a mission-oriented R&D department within the National Health Research Institutes (NHRI) in Taiwan, a non-profit organization established by Taiwanese government.

The NIIDV was formally established in May 2011 by merging the Division of Infectious Diseases and the Vaccine R&D Center. NIIDV conducts researches on important infectious diseases and advocates for government actions and recommendations to solve healthcare problems. International collaborations are part of NIIDV's endeavors to deal with global infectious

diseases. NIIDV has state-of-the-art technology, PIC/S GMP bioproduction plant and expertise to develop novel vaccines and immunotherapeutics.

NIIDV's bioproduction plant aims to implement government policies for developing capability of vaccine manufacture and strengthening the infra-structure of vaccine research. To meet national health needs, we were assigned to produce BCG and antivenins. To respond to Taiwan government emergency request for vaccines against pandemic diseases, cell-based Flu and cell-based EV71 vaccine technologies have been successfully developed and transferred to local companies for further clinical development.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
BCG (contract manufacturing)	Lyophilized-Tuberculosis vaccine	Ampoule	1.5 mg, 30 doses
Antivenin (contract manufacturing)	Lyophilized- 1. Antivenin of Tr. Mucrosquamatus and Tr. Gramineus 2. Antivenin of B. multicinctus and N. naja atra 3. Antivenin of D. acutus 4. Antivenin of D. russellii	Vial	1000 t.u., 1 dose

Future Product Pipe Line

- Cell-based H5N1 flu vaccine
- Cell-based H7N9 flu vaccine
- Cell-based EV71 vaccine
- Lipoprotein-based Meningococcal B vaccine
- Adeno vector-based RSV vaccine
- HPV therapeutic vaccine
- Recombinant BCG
- Dengue vaccine
- Bivalent vaccine against hand-mouth-foot disease

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Cell-based H5N1 flu vaccine					
Cell-based H7N9 flu vaccine					
Cell-based EV71 vaccine					
Lipoprotein-based Meningococcal B vaccine					
Adeno vector-based RSV vaccine					
HPV therapeutic vaccine					
Recombinant BCG					
Dengue vaccine					
Bivalent vaccine against hand-mouth-foot disease					

Areas of Interest for Collaboration

- Technology transfer cell-based viral vaccines and lipoprotein technology
- Service contract for GMP Filling and packaging
- Co-development of new vaccines
- Global marketing partnership/distributorship
- Licensing out of vaccine products and platform technology

Contact Details

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Name of the company : **Panacea Biotec Limited**
 Head of Institution : **Dr. Rajesh Jain, Ph.D., Joint Managing Director**
 Established : **February 1984**
 Country : **India**

Overview of the company

Panacea Biotec is India's leading research based biotechnology Company with established research, manufacturing and marketing capabilities. 2nd largest vaccine producers in India ranking amongst top 25 pharmaceutical companies in represented market share. Product portfolio includes innovative products in Oncology, Organ transplantation, Diabetes, Gastrointestinal diseases and Pediatric vaccines. Pipeline includes high barrier to entry generics in the areas of nanotechnology microparticles, Liposomes and platform drug delivery technologies. Present in over 20 countries across the world including USA and Germany through collaborations and direct presence. Company has research collaborations with leading national and international organizations. State-of-the-art manufacturing facilities for vaccines and pharmaceutical formulations comply with the US-FDA, European and WHO cGMP standards. Bulk vaccine manufacturing facility is located in Lalru, Punjab (India), vaccine formulation and filling, anti-cancer formulation, oral solid formulation facilities are located at Baddi in Himachal Pradesh (India).



Panacea Biotec has been among the leading suppliers of vaccines to UN Agencies and Government of India. Panacea Biotec is credited for developing several vaccines first time in the world including fully liquid Pentavalent vaccine DTP-HepB-Hib (EasyfiveTT), Bivalent Oral Polio vaccine (bOPV), Monovalent OPVs Type 1 & Type 3 and recently launched World's First Fully Liquid whole cell Pertussis (wP) based Hexavalent Combination Vaccine, EasySix™.

Company has around 2,500 employees including 120 scientists working across 4 R&D centers.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Enivac HB	Recombinant Hepatitis B Surface Antigen Vaccine	Glass Vial, Glass PFS	SDV & MDV (10 Dose), PFS
DTP	Diphtheria, Tetanus and whole cell Pertussis Vaccine (Adsorbed) IP	Glass Vial	SDV & MDV (2, 5 & 10 Dose)
NovoHIB	Haemophilus Type b conjugate (PRP-TT) vaccine.	Glass Vial, Glass PFS	SDV, MDV (5 & 10 Dose), PFS
Oral Polio Vaccine	Bivalent Poliomyelitis vaccine including monovalent Type1 and 3 (Oral)	Glass Vial	MDV (20 Dose)
Ecovac4	DPT-HepB, fully liquid Tetravalent vaccine	Glass Vial, Glass PFS	SDV, MDV (10 Dose), PFS
Easyfour-TT	DTP-HibTT fully liquid Tetravalent Vaccine	Glass Vial, Glass PFS	SDV, PFS
Easyfive-TT	DTP-HepB-Hib fully liquid Pentavalent Vaccine	Glass Vial, Glass PFS	SDV, MDV (10 Dose), PFS
EasySix	DTP-HepB-Hib-IPV (Salk) fully liquid Hexavalent Vaccine	Glass Vial, Glass PFS	SDV, PFS

SDV = Single Dose Vial
 MDV = Multi Dose Vial
 PSF = Pre-filled Syringe

Future Product Pipe Line

O Vaccine

- Pneumococcal Conjugate vaccine
- Dengue recombinant lyophilized vaccine
- Sabin Inactivated Polio Vaccine (sIPV)
- Measles vaccine
- Measles & Rubella (MR) vaccine
- Varicella vaccine
- Typhoid conjugate vaccine
- Tetanus Toxoid Vaccine
- aP based combination vaccines
- Conjugated Meningococcal Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Pneumococcal Conjugate vaccine				To start	2019
Dengue				-	2019
Sabin Inactivated Polio Vaccine (sIPV)	Under Development				2021

O Pharmaceuticals

- Overall, Panacea Biotec currently has more than 90 brands in its pharmaceutical business spanning across various therapeutic segments and in different countries.

For Pharmaceutical product range, please visit our weblink http://www.panacea-biotec.com/Product_List.html.

•Alliance for high end Anti-Cancer Products

- The company has entered into a strategic alliance with Apotex Inc. for development, license and supply of two anti-cancer generic products based on nano-particle & liposomal technology for US, Canada, Australia and New Zealand markets.

- The company has entered into collaboration with Bionpharma Inc., USA for development, license, manufacturing and supply of 07 complex generic products for US and Canada markets. Majority of these products will be filed in 2018 and commercialized by 2019.

•New Products:

- Currently 5 ANDA products with high business potential (in Anti-cancer, CNS, CVS therapy area) are under registration in US which are expected to be commercialized in the coming years. In addition a range of complex generic products (with high market potential, high developmental barrier and less potential competition) are under development from Immuno-suppression, anti-cancer, ESRD therapies.

- The company has commercialized Tacpan (Tacrolimus) & Mowell (Mycophenolate) through its indirect Wholly Owned Subsidiary - Panacea Biotec Germany GmbH.

Areas of Interest for Collaboration

- Human Papiloma Virus (HPV) Vaccine
- Rotavirus Vaccine
- New Vaccines

Contact Details

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Name of the company : **Production & Research Complex for Pasteur Institute of IRAN**

Head of Institution : **Dr.Hooman Kaghazian, Ph.D.,**

Established : **March 1987**

Location : **IR of Iran**

Overview of the company

Located in the heart of Tehran, Pasteur Institute of Iran (PII) has been providing health care services and related products to the public since 1920. The initial goal of PII establishment was to recognize and combat domestic infectious diseases. PII now is the home of different departments and research centers such as Bacteriology, Biotechnology, Genetics, Parasitology & Mycology, Clinics, and Virology. PII has also been involved in manufacturing a number of parenteral fluids for hospital use since its establishment.

To meet increasing domestic demand PII manufacturing part moved to a new place in outskirts of Tehran in 1988 and assigned as “Production and Research Complex (PRC)”. In the new place PII was successfully able to develop its manufactures to varieties of product. Currently PRC productions fall

into three categories:

Vaccines: such as Hepatitis B, BCG, and Anti-Rabies (for veterinary use).

Recombinant Protein Preparations: such as Erythropoietin, Interferon alfa 2b, and Streptokinase. Parenteral fluids.

Therapeutics such as intravesical BCG.

Diagnostic materials used in Medical Laboratories.

Equipped with state-of-the-art machineries PRC now is one of the leading companies in manufacturing biopharmaceuticals in the country and the region.

PRC also benefits from quality assurance (QA) and quality control (QC) departments with close cooperation of the National Regulatory Authorities (NRA).

PRC vision is to employ innovative technologies in order to expand its GMP-oriented products to meet domestic demands as well as looking into foreign markets. In order to commercialize products outside the country, PRC recently applied for pre-qualification status through WHO for its vaccines.



Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Hepatitis B Vaccine (Rec.)	Liquid	Vial	5.0 (10 doses)
BCG Vaccine	Lyophilized	Vial	2.0 (20 doses)
Rabies Vaccine (for animal use)	Liquid	Vial	1.0 (1 dose)
BCG Intravesical (Immune)	Liquid	Vial	120mg/3ml
Erythropoietin (Rec.)	Liquid	Vial	1.0 (2000 I.U.)
Parenteral Solutions	liquid	Vial	50
Diagnostic Kits	Antigens & Antiserums Culture	Vial	
Experimental Animals	Mice- Rabbits- Guinea Pigs- Hamster		

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Interferon Alfa 2b					2014
Streptokinase (Rec.)					2014
Rabies vaccine (for Human use)					2015
MMR Vaccine					
Opaque Agents					
Sodium Bicarbonate					
Pentavalent Vaccine					
Pentaperazole					
Anti Venoms (Snakes & Scorpions)					
Hepatitis B (New Version)					2015
Immunological Diagnostic Kits					
Parenteral Amino Acids Solutions					
PEG Interferon					
VZV Vaccine					
Influenza Vaccine					
Meningitis Vaccine					
Pneumococcal Vaccine					
Hepatitis E Vaccine					
Malaria Vaccine					

Areas of Interest for Collaboration

- Recombinant Biopharmaceuticals
- Cell-Culture-Based Vaccines
- Co Operated Manufacturing
- Vaccine Technology Transfer
- Quality Control, Quality Assurance

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Name of the company : **Queen Saovabha Memorial Institute, The Thai Red Cross Society**
 Head of Institution : **Prof. Dr. Visith Sitprija, Director**
Prof. Dr. Sumana Khomvilai, Deputy Director
 Established : **1922**
 Country : **Thailand**

Overview of the company

The Queen Saovabha Memorial Institute (QSMI), founded in 1922, has its mission in producing vaccines eg. BCG vaccines, rabies vaccines and sera preparations eg. snake antivenoms, rabies immunoglobulin and conducting research on snakes, snake venoms, rabies and related topics. QSMI established a snake farm in 1923 and a horse farm in 1956. QSMI has been manufacturing snake antivenoms since 1923, BCG vaccine since 1953 and rabies immunoglobulins since 2002. Work on snakes, snake antivenoms, rabies and equine rabies immunoglobulin has gained international reputation for many decades. The horse farm has more than 500 horses. The Institute is recognized by WHO as WHO Collaborating Centres in both rabies and snake work. The activities of Queen Saovabha Memorial Institute cover 3 main areas of service, research and production as follows.

I. Service

1. Treatment of animal bites and vaccination against rabies
2. Animal clinic and Rabies diagnosis
3. Travelers immunization clinic
4. Other immunization
5. Snake farm for public
6. Joint collaborative projects in clinical and laboratory diagnosis of human and animals suspect of being rabid, route of rabies vaccine administration (with ministry of public health, livestock department, WHO and US communicable disease center).



II. Research and Development

1. Research for improvement of product and diagnosis.
2. Biomedical and clinical research in areas of Rabies, snakes, snake venoms and horses.
3. Collaboration and joint research projects Between QSMI and other educational and research institute.
4. Future plan: New tuberculosis vaccine.

III. Production

- Biological products as indicated in Current Product Pipeline.

- Antidote for the NHSO (National Health Security office) eg. Sodium nitrite 3%, Sodium thiosulfate 25%, Methylene blue injection 5%, Diphenhydramine injection 5% and Edetate Calcium Disodium 20% solution for injection.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
BCG Vaccine	lyophilized product of 0.05 mg/dose and 10 doses per vial	vial	0.5 ml
Rabies vaccine (TRCS Speeda)	lyophilized product of 0.5 ml per dose in vial	vial	0.5 ml
Equine rabies immunoglobulins (TRCS ERIG)	injection liquid of 1,000 IU per vial	vial	0.5 ml
Antivenoms for poisonous snake bite - King Cobra antivenin (Ophiophagus Hannah) - Cobra antivenin (Naja Kaouthia) - Banded Krait antivenin (Bungarus fasciatus) - Malayan Pit Viper antivenin (Calloselasma rhodostoma) - Russell's Viper antivenin (Daboia russelli siamensis) - Green Pit Viper antivenin (Trimeresurus albolabris) - Malayan Krait antivenin (Bungarus candidus) - Neuro polyvalent antivenin (Naja kaouthia, Ophiophagus hannah, Bungarus fasciatus and Bungarus candidus) - Hemato polyvalent antivenin (Calloselasma rhodostoma, Trimeresurus albolabris, Daboia russelli siamensis)	All are lyophilized products in 20 ml. vial with solvent of Water for Injection 10 ml.	vial	10.0 ml

Future Product Pipe Line

(imported bulk vaccine for formulation and filling) : Estimate launch in year 2018

- **Influenza** : injection liquid of 0.5 ml per dose in vial. Ready to be filled bulk from Sinovac Biotech Co., Ltd.
- **JE vaccines** : lyophilized product of 0.5 ml per dose in vial. Ready to be filled bulk from Liaoning Cheng Da Biotechnology Co., Ltd. (CDBIO).
- **Td vaccines** : injection liquid suspension of 2 ml per vial of 2 doses. Ready to be filled bulk from PT. Bio Farma.

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Influenza vaccine					2018
JE vaccines					2018
Td vaccines					2018

Areas of Interest for Collaboration

- New TB vaccine

Contact Details

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Name of the company : **Razi Vaccine & Serum Research Institute**

Head of Institution : **Dr. Hamid Kohram**

Established : **1925**

Location : **IR of Iran**

Overview of the company

Razi Vaccine and Serum Research Institute is known as one of the oldest and most reputed scientific centers in the Middle East. This institute began its activities in the year 1925 with producing vaccine against Rinderpest, which at the time had caused large casualties in the cattle population of the country. At present Razi institute is producing more than 60 biological products including human and veterinary vaccines, sera, etc.

Razi institute is governed by a Board of Trustees. The local costumers of the institute products are the Ministry of Health and the Veterinary Organization of the country. The institute is headquartered in the city of Karaj and has six branches in the cities Mashahad, Ahwaz, Shiraz, Marand, Kerman and Arak. These branches are mainly involved in the production of poultry and other veterinary vaccines.



The Institute is considered a center of research, training and technical assistance for vaccine production and is ready for providing its services and fulfilling the vaccine needs of other developing and neighboring countries.

The objectives are:

- ✦ Research & Production of Medical Vaccines and Antisera
- ✦ Research & Diagnosis of Veterinary and Poultry Diseases
- ✦ Research & Production of Veterinary and Poultry Vaccines
- ✦ Research and Diagnosis of Zoonotic Diseases
- ✦ Biotechnology Research
- ✦ Education & Training

Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
Trivalent DTP,dT, Td	Diphtheria-Tetanus-Pertussis Vaccines	Vial	14 doses/7ml
Measles	Live Attenuated vaccine (Lyo.)	Vial	10 doses/5 ml
Mumps, Rubella	Live Attenuated vaccines (Lyo.)	Vial	1 dose
bOPV	Live Attenuated vaccine	Flakon	15 doses/1.5 ml
Polio (type 1,2, and3)	Live Attenuated vaccine	Flakon	15 doses/1.5ml
MMR , MR, MM	Live Attenuated vaccines (Lyo.)	Vial	10 doses/5 ml
Polyvalent Snake Antivenom	Antivenom	Ampoule	10 , 5
Polyvalent Scorpion Antivenom	Antivenom	Ampoule	5
Anti-Tetanus Serum	Anti Toxin	Ampoule	2
Anti-Diphtheria Serum	Anti Toxin	Vial	5
Anthrax	Live vaccine	Bottle	100
Blackleg (Cattle)	Inactivated vaccine	Bottle	250
Polyvalent Enterotoxaemia (Sheep & Goat)	Inactivated vaccine	Bottle	250
Brucella Melitansis Strain Rev. 1	Live vaccine (Lyo.)	Vial	100
Brucella Abortus Strain IRIBA	Live vaccine (Lyo.)	Vial	20
Agalactia& Pasterulosis (Cattle & Buffalo)	Inactivated vaccines	Bottle	100
Tetanus (Horse)	vaccine	Vial	20
Rinderpest, Sheep Pox, Goat pox	Live vaccines (Lyo.)	Vial	100
Foot and Mouth Disease (FMD)	Inactivated vaccine	Bottle	250
Bovine Theileriosis	Attenuated vaccine	Vial	12
Fowl Cholera	Inactivated vaccine	Bottle	100
Fowl Pox	Live vaccine (Lyo.)	Vial	1000 , 2000
Infectious Laryngotracheitis	Live vaccine (Lyo.)	Vial	1000 , 2000
Fowl Infectious Bronchitis H-120& H-52	Live vaccines (Lyo.)	Vial	1000 , 2000
Newcastle La Sota, Newcastle B1	Live vaccines (Lyo.)	Vial	1000 , 2000,4000
Inactivated Influenza (oil-emulsion) H9N2	Inactivated vaccine	Bottle	250
Inactivated Newcastle (oil-emulsion) V4	Inactivated vaccine	Bottle	250
Combined oil-emulsion H9N2 &V4	Inactivated vaccine	Bottle	250
Combined IB (H-120) / ND (B1)	Live vaccine	Vial	2000

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Peste des Petits Ruminants (PPR)					Licensed & Produced
Combined Live IB (H-120) / ND (La Sota)					
Infectious Bursal Disease (IBD)					
Human Influenza Vaccine					
RS12					
Hib vaccine					
Tetavalent DTP-Hib					
Pentavalent DTP-Hib-HepB					
IPV					

Areas of Interest for Collaboration

- Training in the Fields of Production and QC Tests
- Production of New Recombinant Vaccines(Human, Poultry and Veterinary)

Contact Details

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Name of the company : **SERUM INSTITUTE OF INDIA PVT. LTD.,**

Head of Institution : **DR. CYRUS S. POONAWALLA**
Chairman & Managing Director

Established : **1966**

Country : **India**

Overview of the company

Serum Institute of India Pvt. Ltd. (SII) founded in 1966 by a true visionary Dr. Cyrus Poonawalla, CMD, is now the World's No. 1 producer of DTP & MMR group of vaccines, Hib, BCG, Hep B Vaccines and India's No. 1 Biotechnology Company manufacturing highly specialized life-saving biologicals. It is also one of the largest suppliers of WHO prequalified vaccines to U.N. Agencies catering to over 170 countries across the globe; and also recognized as the reliable largest source of high quality & affordable vaccines and biologicals. It is estimated that about 65% of the children in the world receive at least one vaccine produced by SII. SII made its first international acquisition by acquiring Bilthoven Biologicals, a bioengineering and pharmaceutical company from



The Netherlands Govt. SII is the only Indian company to feature in world's top five vaccine companies (in terms of volume) along with global giants GlaxoSmithKline, Merck, Novartis and Sanofi.

SII products are also registered in several countries including Switzerland. This impact has been large enough to make global agencies such as WHO, GAVI, PATH, NIH, NVI/RIVM, CBER/USFDA & BMGF to work with SII to develop newer vaccines. The production facilities of SII are the best in terms of equipment and human resources; essential to ensure high quality of vaccines. Its manufacturing facilities conform to WHO cGMP requirements and till date SII's 22 vaccines are prequalified by WHO/Geneva.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
TT *	Tetanus Vaccine	Ampoule	Single dose (0.5 ml)
DT *	Diphtheria and Tetanus Vaccine (Paediatrics)	Vial	10 doses (5 ml)
Td *	Diphtheria and Tetanus Vaccine for Adults & Adolescents	Vial	20 doses (10 ml)
DTP *	Diphtheria-Tetanus-Pertussis Vaccine	Ampoule	1 & 2 doses (0.5/1 ml)
		Vial	10 & 20 doses (5/10 ml)
Q-Vac *	DTP and Hepatitis B Vaccine (Adsorbed)	Ampoule/Vial	0.5ml & 1 ml / 5 ml
Quadravax *	DTP + Hib Vaccine (Lyo. & Liquid)	Vial	0.5ml, 1 & 5 ml
Pentavalent *	DTP Hepatitis B + Hib Vaccine (Lyo. & Liquid)	Vial	0.5ml, 1, 5 & 10 ml
BCG *	BCG Vaccine	Vial	5ml, 10ml/ 10, 20 doses
Measles *	Measles Vaccine Live (Lyo.)	Vial	1, 2, 5 & 10 doses (0.5ml per dose)
Rubella *	Rubella Vaccine Live (Lyo.)		
MR *	Measles and Rubella Vaccine Live (Lyo.)		
MMR *	Measles, Mumps and Rubella Vaccine Live (Lyo.)		
IPV *	Inactivated Poliomyelitis Vaccine	Vial	1, 2 & 5 dose
Nasovac-S *	Seasonal Influenza Vaccine, Live Attenuated (Freeze-dried)	Vial/Ampoule	1 dose (0.5ml per dose)
Hep B *	Recombinant Hepatitis B Vaccine (Pediatric & Adult)	Vial/Ampoule	0.5ml & 1ml
		Vial	5 & 10 ml
Hib *	Haemophilus type b Conjugate Vaccine (Lyo.)	Vial	1 dose
MenAfriVac *	Meningococcal A Conjugate Vaccine (Lyo.) 5mcg / 10mcg	Vial	1 & 10 doses
bOPV *	Bivalent Oral Poliomyelitis Vaccine types 1 & 3	Vial	10 & 20 doses
ATS	Tetanus Antitoxin	Ampoule/Vial	1 ml / 5 ml
ADS	Diphtheria Antitoxin	Vial	10 ml
ASVS	Anti-Snake Venom Serum (Lyo.) Asia & Central Africa	Vial	10 ml
ARS	Anti-Rabies Serum	Vial	5 ml
Onco-BCG	BCG for Immunotherapy	Vial	40mg/vial
Vero Rabies	Vero Rabies Vaccine	Vial	1 ml / 1 dose
RMab	Rabies Human Monoclonal Antibody (rdNA)	Vial	100IU/2.5ml & 250IU/2.5 ml
Rotavirus	Rotavirus Vaccine (Live Attenuated Oral)	Vial	1 & 2 dose (2.5ml per dose)

* Products prequalified by WHO for supplies to U.N. Agencies

Future Product Pipe Line

- DTaP Vaccine
- TdaP Vaccine
- Pneumococcal Polysaccharide Vaccine
- Measles Vaccine (Dry Powder)
- Aerosol Measles vaccine
- Rotavirus Vaccine (Liquid)
- Pentavalent Meningococcal Conjugate Vaccine (ACYWX)
- Human Papiloma Virus Vaccine (HPV)
- Recombinant BCG (rBCG) Vaccine
- Dengue Tetravalent Vaccine
- Hexavalent (DTP Hep B Hib IPV) Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- Newer Vaccines development
- Biosimilars
- Monoclonal antibodies

Contact Details

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Name of the company : **Sinergium Biotech**
Head of Institution : **Alejandro Gil (CEO)**
Established : **2009**
Location : **Argentina**

Overview of the company

Sinergium Biotech is an Argentinean pharmaceutical company specialized in the research, development, production and commercialization of high-complexity vaccines and biological products.

The production complex, boasts a capacity of 20 million doses in a surface of 20,000m². Its equipment and production process standards are compatible with the highest international Good Manufacturing Practices (GMP), following the guidelines of U.S. regulatory agency Food & Drug Administration (FDA) and the European Medicines Agency (EMA).

In 2009, Sinergium Biotech entered into a technological transfer agreement for the production of seasonal and pandemic influenza virus vaccines. The production of influenza virus vaccines makes Argentina a member of the small group of countries

relying on their own technology to produce flu vaccine and thus to face possible pandemics.

In 2011, Sinergium Biotech formed an agreement with an international company for the technological transfer as well as the national production and provision of the pneumococcal conjugate vaccine. Sinergium Biotech also formulates packages and prepares for shipment active principles of monoclonal antibodies and others biological products.

Sinergium Biotech represents a great opportunity for international vaccine producers to develop their production capacity in Argentina and therefore set foot and expand their participation in the South-American region markets.



Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/ Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
Seasonal Flu	Anti-influenza Vaccine (inactivated surface antigens)	Prefilled Syringe	0.5 ml
Pediatric Seasonal Flu	Anti-influenza Vaccine (inactivated surface antigens)	Prefilled Syringe	0.25 ml
Adjuvanted Seasonal Flu	Anti-influenza Vaccine (adjuvant MF59C1)	Prefilled Syringe	0.5 ml
Pneumococcal Vaccine	Pneumococcal polysaccharide conjugate vaccine (13-valent, adsorbed)	Prefilled Syringe	0.5 ml
HPV Vaccine	Human Papillomavirus Quadrivalent (Types 6, 11, 16, and 18)	Prefilled Syringe	0.5 ml

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- Technology Transfer for vaccine production
- Vaccine and biopharmaceutical Co-development
- Long Term partnership
- Product development and Process Innovation
- Marketing and Distribution of vaccines in Argentina and South America
- Vaccine joint development and R&D collaborations
- New Antigens and adjuvants
- Contract Manufacturing
- Fill and secondary packaging

Contact Details

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Name of the company : **Sinovac Biotech Ltd.**

Head of Institution : **Weidong Yin**

Established : **2001**

Location : **P.R. China**

Overview of the company

Sinovac Biotech Ltd. is a profitable biopharmaceutical company headquartered in Beijing, China. The Company focuses on the research, development, manufacture and commercialization of vaccines that protect against human infectious diseases including hepatitis A, seasonal influenza, H5N1 (bird flu) pandemic influenza and H1N1 influenza. Sinovac received approval in 2009 for its H1N1 influenza vaccine, PANFLU.1 and has commenced fulfilling orders from the Chinese Central Government pursuant to the government stockpiling program. Sinovac was the first company worldwide to receive approval for H1N1 influenza vaccine.



Sinovac has a robust pipeline of new vaccine products under development. The Company is currently developing vaccines for Enterovirus 71 (EV 71), Pneumococcal Conjugate Vaccine, Hib, and Meningitis. Its wholly owned subsidiary, Tangshan Yian, is conducting field trials for an independently developed inactivated animal rabies vaccine.

Sinovac is open and flexible to discuss any possible collaborative opportunity of international business and has established a clear path to partnering. We are seeking the partners who share the same value as ours

Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
Healive®	Inactivated Hepatitis A Vaccine	Vial	0.5, 1.0 ml
Anflu	Split Influenza Vaccine	Vial	0.25, 0.5 ml
Bilive	Hepatitis A and B Combined Vaccine	Vial	0.5, 1.0 ml
PANFLU.1	H1N1 Influenza Vaccine (Split virion)	Ampoule	0.5, 1.0 ml
H5N1	H5N1 Influenza Vaccine (Split virion)	Ampoule	0.5, 1.0 ml
H5N1	H5N1 Influenza Vaccine (Whole virion)	Ampoule	0.5, 1.0 ml
Mumps	Live attenuated vaccine	Vial	0.5ml

Future Product Pipe Line

- EV71 Vaccine
- Human Rabies Vaccine
- Pneumococcal Conjugate Vaccine
- Pneumococcal Polysaccharide Vaccine
- Hib Vaccine
- DTaP Vaccine
- HepB Vaccine
- Rotavirus Vaccine
- CA16 Vaccine
- Varicella Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
EV71 Vaccine					Q2/2014
Human Rabies Vaccine					Q2/2016
Pneumococcal Conjugate Vaccine					Q2/2016
Pneumococcal Polysaccharide Vaccine					2016
Hib Vaccine					Q2/2017
DTaP Vaccine					Q2/2017
HepB Vaccine					Q2/2017
Rotavirus Vaccine					Q3/2017
CA16 Vaccine					Q3/2017
Varicella Vaccine					Q2/2016

Areas of Interest for Collaboration

- Oversea distribution
- R&D cooperation
- International business
- FDA registration for vaccines
- Adjuvant technology
- Micro-carrier technology
- Novel vaccine technology

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Name of the company : **SK Chemicals Co., Ltd.**

Head of Institution : **Dr. Mahnhoon Park/CEO**

Established : **1969**

Country : **Republic of Korea**

Overview of the company

SK Chemicals Co. Ltd., established in 1969, is a member of SK Group, the third largest conglomerate in Korea. SK Chemicals has two divisions - Life Science Biz and Green Chemical Biz – that strive to become a global leading company providing total healthcare solutions and eco-friendly materials. Life Science Biz of SK Chemicals specializes in the R&D, manufacturing and marketing & distribution of innovative pharmaceuticals, vaccines and plasma-derived products.

After successfully entering the vaccine industry as the number one vaccine distributor in Korea, SK Chemicals has established its own R&D capabilities and launched cell culture-based, trivalent and quadrivalent influenza vaccine, SKYCellflu®, in 2014



and 2015, respectively. SK Chemical's vaccine pipeline has other high-potential vaccines such as PCV, Zoster, Varicella and Rotavirus vaccines which are in the process of registration or the late stages of development.

A state-of-the-art vaccine manufacturing facility of SK Chemicals (L House), located in Andong, has highly advanced and efficient manufacturing capabilities in producing multiple types of vaccines utilizing its multi-modular and single-use production systems.

In commitment to contribute to public health and based on its established R&D and manufacturing capabilities, SK Chemicals has entered into different types of partnerships with organizations such as the International Vaccine Institute, Sanofi Pasteur, and PATH etc.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
SKYCellflu TIV	Cell-culture Trivalent Seasonal Influenza Vaccine	Prefilled Syringe	0.25/0.5 ml
SKYCellflu QIV	Cell-culture Quadrivalent Seasonal Influenza Vaccine	Prefilled Syringe	0.5 ml
SK Td	Adsorbed Tetanus-Diphtheria Toxoids Vaccine (only for Korean market)	Prefilled Syringe	0.5 ml
Hepamune PFS	Recombinant Hepatitis B Vaccine (only for Korean market)	Prefilled Syringe	0.5/1.0 ml
FirstHib	Haemophilus Influenzae Type B Conjugate Vaccine (only for Korean market)	Prefilled Syringe	0.5 ml

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Pneumococcal Conjugate Vaccine				(Infant)	Under BLA review
Zoster Vaccine					
Varicella Vaccine					
Rotavirus vaccine					
HPV vaccine					
Typhoid Conjugate Vaccine					

Areas of Interest for Collaboration

- Global partnership / distributorship
- Licensing-in/-out of vaccine products & platform technology
- Co-development of current and new vaccines
- Contract research & development / manufacturing of various viral and bacterial vaccine products

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Name of the company : **The Biovac Institute**

Head of Institution : **Dr Morena Makhoana**

Established : **2003**

Country : **South Africa**

Overview of the company

The Biovac Institute (Biovac) is a Public Private Partnership between the South African government and a private consortium. It was formed in 2003 to re-establish domestic manufacture of human vaccines, and, ultimately, to enable regional response to vaccine-preventable diseases and regional epidemics.

Biovac is the largest distributor of vaccines in South Africa, and imports, labels, packages and distributes vaccines for the South African public sector. Biovac also imports and distributes vaccines to Southern African Development Community (SADC) countries.



It is Biovac's vision is to be a Centre of Excellence rooted in Africa for the development and manufacture of affordable quality vaccines for Africa and the developing world.

In its short history, Biovac has been able to develop capacity and know-how in conjugate vaccines. The established technology platform includes bacterial fermentation, polysaccharide purification, conjugation and the associated analytical methods. Product-development partnerships are in place with a number of international agencies.

Biovac has invested extensively over the last few years in new vaccine manufacturing and testing facilities. Inward technology transfers are under way with a number of global vaccine-manufacturer partners for local manufacture.

Biovac is the only manufacturer of human vaccines in southern Africa. It is based in Cape Town, South Africa.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
	Pneumococcal Conjugate Vaccine	pfs	
	Hexavalent vaccine	Vial	0.5ml

Future Product Pipe Line

- Hib: Biovac has developed its own *Haemophilus influenzae* type b vaccine technology and has successfully concluded out-licensing deals
- Further contract formulation/filling/finishing – various technology transfer products

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

Biovac welcomes the opportunity to evaluate collaborative partnerships related to the development and manufacture of vaccines and other biological products relevant to Africa and other developing countries.

- Inward technology transfers on products relevant to Africa, particularly bacterial and conjugate vaccines.
- Collaborations on conjugate-vaccine product development
- Contract production of bulk antigen – pilot and full-scale GMP
Sourcing finished products for the local and regional market

Contact Details

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Name of the company : **The Center for Genetic Engineering and Biotechnology**

Head of Institution : **Dr. Luis Herrera Martínez**. Director General

Established : **1986**

Country : **Cuba**

Overview of the company

The Center for Genetic Engineering and Biotechnology (CIGB) since 1986 has become one of the most important research-production facilities at the "Western Havana Bio-Cluster", equipped and staffed to close the cycle from biological research, which means from biotech product and process development, to production, registering, and commercialization. The CIGB has 20 years of experience in the production of recombinant biopharmaceutical molecules such as interferon, Hepatitis B vaccine, Synthetic Haemophilus influenzae type b vaccine, Tetra- and Penta-valent Combined vaccines, streptokinase, epidermal growth factor formulated in different forms, monoclonal antibodies and other products, which are already producing a positive impact on public health in Cuba and a positive cash flow from sales to more than 50 countries.

The CIGB with about 550 scientists and engineers work in more than 50 research and development projects, which involve new vaccines, therapeutic recombinant proteins and peptides, therapeutic monoclonal antibody and diagnostic systems. CIGB project/product portfolio is covered by more than 70 patent applications and manufacture of those arriving into production stage take place under the most stringent GMP conditions leading into international recognition by different authorities.

CIGB is open to implement a coordinated and targeted alliance-building policy, in order to speed up projects, to complement our capacities with those of our new partners, and to open new channels to the most sophisticated markets.

A component of that policy is to anticipate negotiation time and to start alliance building earlier in the product's life cycle. Thus, immersed in this movement, you will find in this document general data about the institution and summaries of eleven projects, which we considered most attractive for negotiation with your organization. However, while the mail proposed focus is set within these propositions, discussions can be opened around other projects of mutual interest as well.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Heberbiovac HB	HB Vaccine	Vial (liquid)	Pediatric and adult doses, single and multidose
Quimi- Hib	Hib Vaccine	Vial (liquid)	Pediatric, single dose
Trivac HB	Tetavalent Vaccine (DPT-HB)	Vial (liquid)	Pediatric and adult doses, single and multidose
Heberpenta L	Pentavalent Vaccine (DPT-HB-Hib). Fully liquid in one vial	Vial (liquid)	Pentavalent Vaccine (DPT-HB+Hib)
Heberon	Interferon's	Vial (liquid & freeze dried)	Several presentations
Hebekinasa	Streptokinase	Vial (freeze dried)	Several presentations
Heberprot-P	Heberprot-P® is a novel and unique medicine indicated for diabetic foot ulcer treatment (DFU). This innovative product contains epithermal growth factor (EGF) as active pharmaceutical ingredient (APhI) to be applied by intra-lesional infiltration directly in the wound site	Vial (freeze dried)	25 and 75 mcg/vial

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Heberprot - P					
HBV vaccine (NASVAC)					
HCV vaccine (CIGB - 230)					
CIGB - 500 (Cytoprotective Agent)					
CEA recombinant antibody fragment (CIGB - M3)					
HPV vaccine					
Prostate cancer vaccine					
CIGB - 370 (Anti- tumor agent)					
CIGB - 166 (anti- VEGF antibody)					
CIGB _ 247 (VEGF vaccine)					
CIGB - 552 (anti -tumor peptide)					
Dengue vaccine					
Dengue anti-viral molecules					
CIGB - 845 (neure-protective agent)					
Peptide for Rheumatoid Arthritis					

Areas of Interest for Collaboration

- Business Strategy for International Partnership in R&D CIGB's Projects
- CIGB is open to implement a coordinated and targeted alliance-building policy, in order to speed up projects, to complement our capacities with those of our new partners, and to open new channels to the most sophisticated markets

Contact Details

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Name of the company : **The Company for Vaccine and Biological Production No.1 (VABIOTECH)**

Head of Institution : **1 Yersin Street, Hanoi, Vietnam**

Established : **2000**

Location : **Vietnam**

Overview of the company

The Company for Vaccine and Biological Production No.1 is a State-Owned Company which used to belong to The National Institute of Hygiene and Epidemiology (NIHE), Hanoi-Vietnam. From June 2010, VABIOTECH has been transformed into a State Owned One Member Limited Company

VABIOTECH is one of the leading companies in Vietnam in manufacturing, trading, researching and developing a wide range of vaccines and biologicals for human use, analyzing samples of new developed vaccines and biological products, diagnostic kits, therapeutic products, pharmaceuticals; cosmetics, nutrition foods, providing healthcare services... Being the biggest vaccine



manufacturer and supplier for the National Expanded Program on Immunization in Vietnam with GMP-qualified facilities, VABIOTECH is proud of its contribution to prevent, eliminate and gradually eradicate dangerous infectious diseases in order to improve children's health in Vietnam. Currently, VABIOTECH produces 4 vaccines: Hepatitis B, Hepatitis A, Japanese Encephalitis, Oral cholera and a series of diagnosis kits for detection of HBsAg, anti-HBs, anti-HCV and anti-HIV. Besides, VABIOTECH also imports and provides some other vaccines and biological products to meet the market's demand such as: Mumps, Rubella, Meningococcal and Varicella. VABIOTECH is highly committed to provide its best products at favorable price in order to protect Vietnamese people's health and well-being.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Hepatitis A Vaccine	Vaccine is a suspension containing inactivated hepatitis A virus (HM 175 hepatitis A strain) absorbed onto aluminum hydroxide.	vial	1.0
Hepatitis B vaccine	It is a non-infectious, inactivated recombinant subunit viral vaccine derived from HBsAg produced in yeast cells using recombinant DNA technology. It is a whitish turbid liquid which is produced by culture of genetically engineered yeast cells which carry the relevant gene of HBsAg, purified and inactivated by several physico-chemical steps such as ultra centrifugation, column chromatography and formaldehyde treatment.	vial	0.5/1.0
Japanese Encephalitis vaccine	The vaccine is produced by VABIOTECH upon technology transfer from BIKEN Institute – Japan, use Japanese encephalitis virus Nakayama strain. This is an inactivated, purified vaccine derived from mouse brain.	vial	1.0/5.0
Cholera vaccine	The vaccine is used against Cholera. The vaccine is produced from Cholera bacteria, consisting of V Cholerae Classical biotype, ELTor and O 139.	vial	7.5

Future Product Pipe Line

- H₃N₂ influenza vaccine (Primary Monkey kidney cell base)
- Hib conjugate vaccine
- Rabies vaccine (vero cell base)
- Japanese Encephalitis vaccine (vero cell base)
- Enterovirus 71 vaccine (EV71)
- S. typhoid Vi conjugate vaccine
- Hepatitis A vaccine (vero cell base)

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
H ₃ N ₂ influenza vaccine					I/2014
Hib conjugate vaccine					I/2016
Rabies vaccine					I/2016
Japanese Encephalitis vaccine					I/2017
Ev71 vaccine					I/2016
S. typhoid Vi conjugate vaccine					I/2016
Hepatitis A vaccine					I/2016

Areas of Interest for Collaboration

- Technology transfer
- Filling and secondary packadging
- Register; collaborate in doing clinical trial, import and market vaccines and biological products in Vietnam's market.
- Export VABIOTECH's products
- Research, develop and commercialize new generation vaccines in Vietnam.

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Name of the company : **The Government Pharmaceutical Organization**

Head of Institution : **Dr. Suwach Siasiriwattana MD. Managing Director.**

Established : **5th August 1966**

Location : **Thailand**

Overview of the company

The Government Pharmaceutical Organization (GPO) of Thailand is a state enterprise under Ministry of Public Health. It was founded in the year 1966 by merging of a pharmaceutical manufacturing plant(founded in 1939) and Pharmaceutical Department(founded in 1901) according to the GPO Act of 1966. The annual revenue of fiscal year 2012(Oct2011-Sep2012) is approx. 400 mUSD. The total pharmaceutical product items are more than 300. The total staff is about 2,700.

The main responsibility of GPO is to produce medicines and pharmaceutical products to serve the national health security system and other medicine supplies. Biological Product Department of GPO is, one of the Production Clusters, responsible for production of vaccines and antisera. At present, staff under this department is about 180. Our current products are JE (MB) vaccine, antiserum of



tetanus and snake venoms. The coming vaccines of dT, TT, DTP DTP-HB and influenza vaccines are under development. The development of influenza vaccine has been supported by WHO and Thai Government including domestic and international networks. The H1N1 2009 PLAIV was registered for pandemic purpose in July 2011. The new strain H5N2 PLAIV is now completed clinical study Phase II and ongoing to submit for registration for pandemic use. The seasonal IIV is being scaled up from pilot scale to industrial scale with technical assistance from KAKETSUKEN, Japan.

The industrial influenza vaccine plant in Saraburi province (120 Km away from Bangkok) is under construction with the support from the government and this will be the new factory for biological products in the future.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Japanese Encephalitis vaccine	Inactivated Japanese Encephalitis vaccine, Beijing strain	Vial	0.5 ml and 5.0 ml
TAT	Tetanus Antitoxin	Ampoule / Vial	1ml / 2ml
Antisnake venom	Anti Cobra, Anti Malayan Pit Viper, Anti Russeli's Viper	Ampoule	10ml

Future Product Pipe Line

- Inactivated Influenza vaccine
- Live attenuated Influenza vaccine
- DTP-Hepatitis B vaccine
- dT vaccine
- Tetanus vaccine
- Cell based JE

Product Name	Pre Clinical		Clinical		Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- Development of other vaccines and biopharmaceutical products
- Technology transfer
- Research Collaboration

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Name of the company : **Holding Company for Biological Products and Vaccines (VACSERA)**

Head of Institution : **Dr. Mamdouh Mohamed El-Bahnasawy**

Established : **1881. The oldest manufacture of vaccines in Africa & the Middle East. It turned into a governmental organization by 1970s then into a holding company in 2002**

Country : **Egypt**

Overview of the company

Holding Company for Biological Products & Vaccines (VACSERA) is the only producer of vaccines & sera in Egypt and has one of the main blood banks.

VACSERA's long journey of disease prevention & vaccine production started in 1881 as a small laboratory established by the government to produce vaccines, and the first success story was the production of smallpox vaccine for the first time in Egypt by 1893.

In July 2002, VACSERA became a state owned holding company with three affiliated companies:

1. EGYVAC: The Egyptian Company for Production of Vaccines, Sera and drugs.
2. EGYBLOOD: The Egyptian Company for Blood Transfusion services.
3. EGYVET: The Egyptian Company for Drugs & Veterinary Vaccines.



Ever since, VACSERA is dedicated to fulfill Egypt's strategic public health needs from vaccines, sera & biological products.

We are also committed to export vaccines to the public sector of developing countries especially Africa and Gulf area at preferential price.

As a leading company in the field of biological products & vaccines, we are devoted to excel all over our scope of work and to carry out continuous improvement program aiming to company with the international standards. We strive to achieve this goal with an honest commitment towards our customers, employees, society, country & the whole environment as well.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
I. Vaccines			
Toxovac	Adsorbed Tetanus Toxoid vaccine	Vial/amp	0.5 ml & 5 ml
DT vaccine (for pediatric use)	Diphtheria & Tetanus Toxoids	Vial/amp	0.5 ml & 5 ml
DT vaccine (for adult use)	Diphtheria & Tetanus Toxoids	Vial/amp	0.5 ml & 5 ml
DTP vaccine	Diphtheria & Tetanus Toxoids & Inactivated Bordetella pertussis	Vial/amp	0.5 ml & 5 ml
Cholera vaccine	Formaldehyde killed vibrio cholera	Vial/amp	0.5 ml & 10 ml
Typhoid vaccine	Formaldehyde killed Salmonella typhi	Vial/amp	0.5 ml & 10 ml
Mixvac (Typhoid / Tetanus vaccine)	killed Salmonella typhi	Vial/amp	10 ml
Meningococcal AC vaccine	Purified polysaccharide from Niesseria meningitides of types A & C	Vial	10 ml & 25 ml
Speeda Rabies vaccine for human use	Freeze dried rabies vaccine vero cell	Vial	0.5 ml
I.Sera			
Polyvalent anti-scorpion serum	Anti-scorpion serum (liquid / lyophilized)	Amp	1 ml
Snake venom antiserum polyvalent (liquid / lyophilized)	Polyvalent anti-snake serum	Vial	10 ml
Polyvalent anti-viper venom serum (lyophilized)	Polyvalent anti-viper serum	Vial	5 ml
Tetanus antitoxin 30000 IU (therapeutic)	Tetanus antitoxin 30000 IU	Vial	10 ml
Tetanus antitoxin 1500 IU (prophylactic)	Tetanus antitoxin 1500 IU	Amp	1 ml
Tetan 3000 IU (prophylactic)	Tetanus antitoxin 3000 IU	Amp	1 ml
Diphtheria antitoxin	Diphtheria antitoxin 10000 IU	Vial	10 ml
Polyvalent anti-viper venom serum (liquid)	Polyvalent anti-viper serum	Vial	5 ml
II.Biopharmaceuticals			
Insulin Mix VACSERA	Human insulin – Mix (100 I.U.)	Vial	10 ml
BCG-T	Effective treatment for some non-invasive bladder cancers. It's given directly into the bladder (intravesical)	Vial	3 ml
Abevac	Bee venom	Vial	1 ml

Future Product Pipe Line

Vaccines:

- Penta vaccine (DTPw – HB – HIB)
- Seasonal influenza vaccine
- Rabies vaccine
- Bi-valent OPV
- Haemophilus influenza vaccine
- Meningococcal vaccine AC & ACWY

Veterinary Vaccines:

- Veterinary influenza vaccine (Avian Flu)

Blood Derivatives:

- Human Albumin
- Factors VII, VIII & IX
- Gama-globulins

Others:

- Retractable safety syringes

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	

Areas of Interest for Collaboration

- Technology transfer of vaccines.

Contact Details

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Name of the company : **VINS Bioproducts Limited**

Head of Institution : **S.N. Daga**

Established : **1997**

Country : **INDIA**

Overview of the company

VINS Bioproducts Limited is committed to manufacture and market WHO standard anti-sera immunoglobulins to the customers in India and also worldwide. VINS produces anti-sera immunoglobulins like:

- Snake venom anti-serum
- Rabies anti-serum



- Scorpion venom anti-serum
- Anti-sera for tetanus
- Diphtheria and
- Gas gangrene

Anti-sera manufactured by VINS are accredited by the World Health Organization and other international agencies and we are engaged in continuous improvement of products and processes to enhance the quality of production and cost competitiveness in order to build value for our customers. VINS Bioproducts Limited serves its customers globally with sales in over 60 countries. We have also expanded the business by building capabilities internally, through strategic expansions and acquisitions.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Rabies Immunoglobulin	VINRAB 1000 IU Enzyme Refined, Equine Anti Rabies Immunoglobulin fragments	Vial Liquid	5ml
Rabies Immunoglobulin	VINRIG 1500 IU Enzyme Refined, Equine Anti Rabies Immunoglobulin fragments	Vial Liquid	5ml
Snake Venom Antiserum for SAARC Countries	Polyvalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venoms of snakes of <i>Naja sp</i> , <i>Bungarus sp</i> , <i>Daboia sp</i> , <i>Echis sp</i>	Vial Liquid and Lyophilized	10ml
Snake Venom Antiserum for Africa	Polyvalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venoms of snakes of <i>Naja sp</i> , <i>Dendroaspis sp</i> , <i>Bitis sp</i> , <i>Echis sp</i>	Vial Lyophilized	10ml
Snake Venom Antiserum for Middle East and North Africa	Polyvalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venoms of snakes of <i>Naja sp</i> and <i>Cerastes sp</i> . Para specifically, neutralizes <i>Walterinnesia sp</i> , <i>Bitis sp</i> , <i>Echis sp</i> , <i>Macrovipera sp</i> , <i>Vipera sp</i> , <i>Cerastes sp</i> .	Vial Lyophilized	10ml
Snake Venom Antiserum for Central Africa	Polyvalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venoms of snakes of <i>Dendroaspis sp</i> , <i>Bitis sp</i> , <i>Echis sp</i> , and <i>Daboia sp</i> .	Vial Lyophilized	10ml
Scorpion Venom Antiserum for Middle East and North Africa	Polyvalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venoms of scorpions of <i>Leiurus sp</i> and <i>Androctonus sp</i> . Para specifically, <i>Androctonus sp</i> , <i>Scorpiomarus sp</i> and <i>Buthus sp</i> .	Vial Lyophilized	1ml
Tetanus Antitoxin (ATS)	Tetanus Antitoxin 1000 IU / 1500 IU / 3000 IU IP/BP/IHS (1 ml vial)	Vial/ Ampoule/ PFS Liquid	1ml
Diphtheria Antitoxin (ADS)	Diphtheria Antitoxin 10000 IU IP/BP (10 mL vial)	Vial Liquid	10 mL
Mixed Gas gangrene Anti-toxin	Polyvalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the toxins of <i>Clostridium sp</i> .	Vial Liquid	10 mL
Snake Venom Antiserum Echis Ocellatus monovalent for Nigeria	Monovalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venom of <i>Echis ocellatus</i> (Oscillated Carpet Viper)	Vial Lyophilized	10 mL
Snake Venom Antiserum Naja kouthia monovalent for Thailand and Myanmar	Monovalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venom of <i>Naja kouthia</i> (Monocled cobra)	Vial Lyophilized	10 mL
Snake Venom Antiserum Daboia russellii monovalent for Thailand and Myanmar	Monovalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments neutralizing the venom of <i>Daboia russellii</i> (Russell's Viper)	Vial Lyophilized	10 mL

Future Product Pipe Line

- Chimeric Anti gas gangrene serum
- Anti Thymocyte globulins

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Chimeric Anti gas gangrene serum	Under R & D				
Anti Thymocyte globulins					

Areas of Interest for Collaboration

- Technology transfers
- University collaboration

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Name of the company : **Walvax Biotechnology Co., Ltd**

Head of Institution : **Li Yunchun**

Established : **2001**

Location : **P.R. China**

Overview of the company

Walvax Biotechnology Co., Ltd. (referred to as Walvax) was founded in 2001, which is a modern biological pharmaceutical enterprise engaged in R & D, production and sales of bio-medicine products. Walvax is committed to provide safe bio-medicine (such as vaccines, blood products and so on) with excellent quality and advanced technology for domestic and foreign markets. Walvax's headquarters is located in Kunming, Yunnan Province of China. Currently, Walvax has a modern R & D center in National High-tech Zone of Kunming, and a modern vaccine production base and pilot base in High-tech Zone of Yunnan Yuxi and Jiangsu Taizhou China Medical City, respectively. Walvax's marketing network covers 30 provinces and cities of China, which includes more than 2000 counties.



In November, 2010, Walvax Biotechnology Co., Ltd. (stock name: Walvax Biotech, and stock code: 300142) listed on Shenzhen Stock Exchange. The operation income of 2014 reached 719.02 million RMB, while the net profit was 143.42 million RMB.

Walvax has successfully developed 20 vaccines, in which Haemophilus Influenzae Type b Conjugate Vaccine, Group A, C Meningococcal Polysaccharide Conjugate Vaccine Freeze Dried, Group A, C, W135 and Y Meningococcal Polysaccharide Vaccine and Group A, C Meningococcal Polysaccharide Vaccine Freeze Dried have been already marketed.

Current Product Pipeline

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Haemophilus Influenzae Type b Conjugate Vaccine	The product officially launched into market in September 2007. This vaccine is indicated for infants from the age of 2 months to 5 years to induce the active immunization against infectious diseases caused by <i>Haemophilus influenzae</i> type b, such as meningitis, pneumonia, septicemia, cellulitis, arthritis, epiglottitis etc.	Vial	0.5 ml
Haemophilus Influenzae Type b Conjugate Vaccine	In April 2010, Walvax launched a prefilled syringe dosage form of Haemophilus Influenzae Type b Conjugate Vaccine (Hib). Compared to similar products of semi-prefilled syringe dosage form, our prefilled syringe Hib vaccine need just two-step inject operation: Remove the needle shield, and inject. Since no re-dissolution and no need to pierce the vial cap, it can effectively reduce the abundant procedures and waste items in the course of injection. It also can effectively avoid contamination and keep the tip intact. So it can reduce the pain of the vaccinated children.	Pre-filled syringe	0.5 ml
Group A, C Meningococcal Polysaccharide Conjugate Vaccine, Freeze Dried	The product was on market officially in September 2009. The vaccine is indicated for infants from the age of 3 months to 5 years preventing diseases caused by Meningococcal Group A or C, such as cerebrospinal meningitis and septicemia.	Vial	0.5 ml
Group A, C Meningococcal Polysaccharide Vaccine Freeze Dried	The product was on market officially in December 2012. This product is only recommended for Children and adults over the age of 2 years. This vaccine is used to prevent disease caused by the bacteria named "Neisseria meningitidis groups A and group C".	Vial	0.5 ml
Group A, C, W135 and Y Meningococcal Polysaccharide Vaccine	The product was on market officially in December 2012. Currently, this product is only recommended for children above 2 years old and the people who are at the high risk of getting this disease to use. After vaccination, it can prevent meningococcal disease caused by epidemic Neisseria meningitidis serogroups A, C, Y, and W-135.	Vial	1ml /vial/ lyophilized vaccine + 0.5ml / vial /dilutents

Future Product Pipe Line

- 23 valent pneumococcal polysaccharide vaccine
- Diphtheria, Tetanus and acellular Pertussis Combined vaccine, Adsorbed
- Tetanus toxoidvaccine, adsorbed
- Human recombinant papillomatosis poison bivalent vaccine type (16/18) (yeast)
- Restructuring the HER2 humanized monoclonal antibodies
- Inactivated split Influenza vaccine
- Recombined (Hansenula polymorpha) Hepatitis B vaccine
- DTaP+Hib combined vaccine
- Restructuring of TNF alpha human mouse chimeric monoclonal antibody
- Recombination anti-tumor necrosis factor alpha all anthropogenic monoclonal antibodies
- 13 valent pneumococcal conjugate vaccine
- Group A, C, W135 and Y Meningococcal conjugate Vaccine
- Immunoglobulin (pH4)
- Typhoid vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
23 valent pneumococcal polysaccharide vaccine					
Diphtheria, Tetanus and acellular Pertussis Combined vaccine, Adsorbed					
Tetanus toxoidvaccine, adsorbed					
Human recombinant papillomatosis poison bivalent vaccine type (16/18) (yeast)					

Areas of Interest for Collaboration

Walvax strives to become your best collaboration partner in China. Area of collaboration includes product distributorship, licenses-in/out and manufacture support. Products for Distribution in Asia (especially Southeast Asia)

- Vaccine:
Inactivated Polio Vaccine (IPV), Measles-Mumps-Rubella vaccine (MMR), Varicella vaccine, Rotavirus Vaccine, Pneumococcal Vaccine
- Source Biologics from world
 - 1.Vaccine
 - 2.Blood Plasma Products
 - 3.Biologics

Contact Details

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Name of the company : **XIAMEN INNOVAX BIOTECH CO., LTD.**

Head of Institution : **Mr. Steven Gao**

Established : **March, 2005**

Country : **China**

Overview of the company

Xiamen Innovax Biotech Co., Ltd. (INNOVAX), with its premises located in coastal city in East China, was established in 2005. Being wholly owned subsidiary of Beijing Wantai Biological Pharmaceutical Co., Ltd. under the Yang Sheng Tang Group, INNOVAX is dedicated in developing, manufacturing of innovative vaccines, with the mission of providing high-quantity and affordable innovative vaccine for people in need worldwide.



There are two manufacturing sites and facilities respectively for HEV and HPV in INNOVAX, with designed capacity of 5 million doses per year and 30 million doses per year. Phase I construction area in the new facility covers 35,365m², is expected to put into operation in October 2017.

In collaboration with the National Institute of Diagnostics and Vaccine Development in Infectious Diseases (NIDVD), INNOVAX has established a core-platform using DNA recombinant technology to express protein in E. coli for vaccine production. Based on this platform, the world's first Hepatitis E Vaccine--Hecolin[®] was launched in China in October 2012. In addition, an HPV 16/18 bivalent Vaccine--Cecolin[®] in phase III clinical trial, an HPV 6/11 bivalent Vaccine in

phase II clinical trial and another HPV 9-valent Vaccine in application of clinical approval have been developed.

Current Product Pipeline

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
Hecolin [®]	Hepatitis E Vaccine (E.coli)	Pre-filled Syringe	0.5 ml

Future Product Pipe Line

- HPV 16/18 bivalent Vaccine
- HPV 6/11 bivalent Vaccine
- HPV 9-valent Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
HPV 16/18 bivalent Vaccine (Cecolin®)	2002-2007	2010-2011	2011-2012	2012-2018	2020
HPV 6/11 bivalent Vaccine	2002-2009	2013-2016	2016-2017	2019-2021	2024
HPV 9-valent Vaccine	2012-2015	2018-2019	2019-2021	2021-2026	2028

Areas of Interest for Collaboration

- Licensing
- Overseas distribution
- Product co-development

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Name of the company : **Zydus Cadila**

Head of Institution : **Mr. Pankaj R Patel**

Established : **1952**

Country : **India**

Overview of the company

Zydus Cadila is a fully integrated, global healthcare provider, with strengths all along the pharmaceutical value chain.

The group has built strong positions in key segments of Cardiovasculars, Gastrointestinals, Women's Healthcare, Respiratory, Pain Management and Anti-infectives. The group also has a formidable presence in the field of biologics spanning therapeutic areas like oncology, nephrology, rheumatology, hepatology and vaccines.



Globally, the group has a strong presence in the regulated markets of the US, Europe (France & Spain) and the high profile markets of Latin America and South Africa.

The group has a team of around 1200 research professionals spearheading its R&D programme on development of NMEs, NBEs and vaccines at research centers based out of India and Italy.

Zydus is also the only Indian pharma company to launch its own patented NCE – Lipaglyn. In 2014, the group launched Exemptia, the world's first biosimilar of Adalimumab.

Current Product Pipeline

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Vaxiflu S	Inactivated influenza vaccine (whole virion) (pandemic influenza (H1N1) 2009 monovalent vaccine	vial	0.5/5.0 ml
VacTyph	Vi capsular polysaccharide typhoid vaccine	Vial & PFS	0.5 ml
Vaxirab N	Purified chick embryo cell culture rabies vaccine	vial	1 ml
Vaxiflu - 4	Inactivated quadrivalent influenza vaccine (split virion)	Vial & PFS	0.5 ml

Future Product Pipe Line

- MR vaccine
- MMR vaccine
- Varicella vaccine
- Measles vaccine
- Tetanus toxoid
- DTwP
- Typhoid TT conjugate vaccine
- Anti-rabies mAbs
- Pentavalent (DTwP-Hib-Hep B) vaccine
- MMRV vaccine
- HPV vaccine
- Hepatitis A vaccine
- Hepatitis B vaccine
- Hepatitis E vaccine
- Leishmania vaccine
- Malaria vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
MMR vaccine					Q2 2018
Varicella vaccine					Q1/2018
Trivalent influenza vaccine					
Measles vaccine					
Tetanus toxoid					
DTwP vaccine					
Typhoid TT conjugate vaccine					Q4/2017
Anti-rabies mAbs					Q4/2018
Pentavalent (DTwP-Hib-Hep B) vaccine					Q1/2019
Hepatitis B vaccine					Q1/2019
MMRV vaccine					Q3/2019
HPV vaccine					Q4 2020
Hepatitis A vaccine	Yet to be initiated				Q1 2021
Hepatitis E vaccine	Yet to be initiated				2021
Leishmania vaccine	Yet to be initiated				2022
Malaria vaccine	Yet to be initiated				2022

Areas of Interest for Collaboration

Collaboration for finding vaccine candidates (mentioned below) wherein proof of concept studies for safety and efficacy are established until preclinical or preferably until phase I clinical trial

- Tuberculosis vaccine
- Malaria vaccine
- Therapeutic cancer vaccines
- Therapeutic metabolic disease vaccines
- RSV vaccine
- Thermostable vaccine technologies
- New adjuvants

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List of Member Organizations

1.	AMSON Vaccines & Pharmaceuticals Ltd.	Pakistan	1
2.	Arab Company for Pharmaceutical Products (Arabio)	Saudi Arabia	3
3.	Beijing Minhai Biotechnology Co., Ltd.	P.R. China	5
4.	Beijing Tiantan Biological Products Co., Ltd.	P.R. China	7
5.	Bharat Biotech International Limited.	India	9
6.	Biological E. Limited.	India	11
7.	Bio Farma	Indonesia	13
8.	Bio-Manguinhos - Institute of Technology on Immunobiologicals	Brazil	15
9.	BioNet-Asia Co., Ltd.	Thailand	17
10.	BravoVaxCo., Ltd.	P.R. China	19
11.	CPL Biologicals Private Limited	India	21
12.	Center for Research and production of Vaccine and Biological (POLYVAC),	Vietnam	23

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13.	Changchun BCHO Biotechnology Co.	P.R. China	25
14.	China National Biotech Group (CNBG)	P.R. China	27
15.	EuBiologics, Co. Ltd.	Republic of Korea	29
16.	Finlay Institute	Cuba	31
17.	Fundação Ataufo de Paiva	Brazil	33
18.	Green Cross Corporation	Korea	35
19.	GreenSignal Bio Pharma Limited	India	37
20.	Haffkine Bio-Pharmaceutical Corporation Limited.	India	39
21.	HLL Biotech Limited	India	41
22.	Incepta Vaccine Ltd.	Bangladesh	43
23.	Indian Immunologicals Limited.	India	45
24.	Instituto Biologico Argentino S.A.I.C	Argentina	47
25.	Institute of Vaccines and Medical Biologicals	Vietnam	49

List of Member Organizations

26.	Instituto Butantan	Brazil	51
27.	Institute of Medical Biology, Chinese Academy of Medical Sciences	P.R. China	53
28.	Laboratorios de Biológicos y Reactivos de México, S.A.de C.V.(BIRMEX)	Mexico	55
29.	LG Chem Ltd.	Republic of Korea	57
30.	Liaoning Cheng Da Biotechnology Co., Ltd. (CDBIO)	P.R. China	59
31.	Medigen Vaccinology Corporation	Taiwan	61
32.	National Administration of Laboratories and Institutes of Health ANLIS "Dr. Carlos G. Malbrán"	Argentina	63
33.	National Institute of Infectious Diseases and Vaccinology	Taiwan	65
34.	Panacea Biotec Ltd.	India	67
35.	Pasteur Institute of Iran	IR of Iran	69
36.	Queen Saovabha Memorial Institute	Thailand	71
37.	Razi Vaccine & Serum Research Institute	IR of Iran	73
38.	Serum Institute of India Ltd.	India	75

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39.	Sinergium Biotech S.A.	Argentina	77
40.	Sinovac Biotech Ltd.	P.R. China	79
41.	SK Chemicals (Life Science Biz division)	Republic of Korea	81
42.	The Biovac Institute	South Africa	83
43.	The Center for Genetic Engineering and Biotechnology	Cuba	85
44.	The Company for vaccine and biological production No.1 – VABIOTECH	Vietnam	87
45.	The Government Pharmaceutical Organization	Thailand	89
46.	The Holding Company for Biological Products & Vaccines (VACSERA)	Egypt	91
47.	Vins Bioproducts Ltd.	India	93
48.	Walvax Biotechnology Co., Ltd.	P.R. China	95
49.	Xiamen Innovax Biotech Co. Ltd.	P.R. China	97
50.	Zydus Cadila	India	99



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