



Vaccines - safeguarding
our future





Welcome note from the Board Chair

Dear DCVMN Members, Partners and Friends,

On behalf of DCVMN, welcome to the 22nd DCVMN Annual General Meeting (AGM)! It gives me great joy to see us here together (albeit virtually) at this event where we get an opportunity to share, assess, and appreciate our experiences over the past year. I would like to open this note by notifying that our network has grown to include 15 full members, the most since the founding of the DCVMN. I wish all DCVMN member companies success and with the intent that the network can serve as a platform to support the mission and vision of your respective organizations.

This past year has been even more challenging than the last. While the SARS-CoV-2 virus continues to impact all our lives, I believe that the work done by members of the network has greatly helped the world in containing this pandemic. Till date over ~6 billion doses of COVID-19 vaccines have been delivered across the world, of which ~50% are by manufacturers within the network. Over 15 manufacturers within this network are contributing towards the supplies of COVID-19 vaccines.

Major developments seen during this pandemic, are the concepts of decentralized manufacturing and the importance of technology transfer partnerships. It was clear from the start, that this pandemic will not be solved through the efforts of one manufacturer, one product or one country. It was also clear during the past year that both product development and large scale manufacturing have to be successful to achieve our desired goal of "leaving no one behind". We are happy to note that DCVMN members have established partnerships with member companies and with external companies towards this great cause. Till date ~15 manufacturers have licensed vaccines for COVID-19, with ~5 manufacturers having innovative novel vaccines for against the SARS-CoV-2 virus.

All these advances during such a short period of time are astounding achievements. I congratulate all members of our network involved in achieving these goals, and wish the best for all manufacturers who are developing additional vaccines to further support this initiative.

With that being said, I think we can all agree that we still have much work to do. Several populations in low income and middle income countries remain unvaccinated against the SARS-CoV-2 virus, with several countries reporting less than 3% of their populations vaccinated.

These populations remain susceptible to large outbreaks which could lead to additional variants of the virus. Like the notorious Delta variant, novel variants can cause major concern with breakthrough infections in the vaccinated cohorts. We must work to arrest this possibility and put forth our efforts in scaling up production capacities of existing and soon to be licensed vaccines, so that vaccination rates across the world rise exponentially. The only way to beat this pandemic is through equitable supplies of safe and effective vaccines.

As our members have made advances over the year, the DCVMN secretariat is also fast evolving to meet our future challenges and support our members as required.

Our Executive Committee has now officially been restructured to function as a Board of the Network. The Secretariat is now being led by the first CEO for the network, Mr. Rajinder K. Suri; and, we are working toward developing several subject matter experts from within the secretariat and from external sources, in order to support with the smooth functioning of our various working groups, committees and sub-committees. With the intent of a more representative secretariat, we have also embarked on a process of recruiting personnel from across the world to become part of our secretariat.

Lastly, I would like to congratulate our secretariat and subject matter experts in collaborating with our membership to successfully publish five peer-reviewed publications during 2020-21. These publications cover topics such as implementation of traceability standards, advancing innovation from DCVMs, challenges with combating the pandemic from a DCVM perspective, and finally the technical capabilities within the DCVMN. Such publications and position papers showcase the knowledge, expertise and capabilities of our members, while also putting forth the unique challenges faced by our membership.

I would like to close this note by wishing everyone a productive and enjoyable 22nd DCVMN AGM and I look forward to the progress we are able to make this upcoming year!

Sai D. Prasad

DCVMN Board Chair

BOARD MEMBERS



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GAVI Board Representative &
GAVI PPC Representative
Biological E Limited



Mr. Rajinder Kumar Suri
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DCVMN



Dr. Sonia R Pagliusi
Executive Secretary
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Pakistan



P.R. China



Republic of Korea



Russia



Senegal



South Africa



Taiwan



Thailand



Vietnam



AMSON VACCINES & PHARMA (PVT) LTD.

Name of the company : **Amson Vaccines & Pharma (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 of Pakistan 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 Institutions including Federal EPI. We provide jobs to above 950 personnel who are involved from production to selling / marketing of our products.



Vaccine being our especially 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 five of our designs have been approved by World Health Organization for sale to UNICEF and other UN Agencies.

We have been supplying our AD Syringes to UNICEF since 2018 and UNICEF has currently entered into Long term Agreement with us for the supply of AD & RUP Syringes for the year 2020–21.

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

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Imatet Injection	Tetanus Toxoid Vaccine	Vial / Ampoule	0.5ml / 5ml / 10ml
Amvax-B Injection	Recombinant Hepatitis B Vaccine	Vial / Ampoule	0.5ml/1ml/5ml/10ml
Typbar Injection	Polysaccharide Typhoid Vaccine	Ampoule	0.5ml
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 Influenza Vaccine (TIV & QIV)
- Oral Cholera Vaccine
- Tetanus Diphtheria

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
- Typhoid conjugal vaccine (filling)
- BCG vaccine (Import and manufacturing)
- MMR vaccine (Import and manufacturing)
- Export of Auto Disable Syringes
- Rabies (Cell Cultured Vaccine)(Import and manufacturing)

Contact Details

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

Head of Institution : **Dr. Abdulrahman Almutairi (Arabio CEO).**

Established : **2005**

Location : **Saudi Arabia**

Overview of the company

Brief: Arabio is the first biopharmaceutical company in the Gulf Cooperation Council (GCC) specialized in human vaccines & biological products. The size and scope of activities intended to be made by Arabio would make Arabio the first biological company of its kind in the region. Arabio aims to bring to the markets of the Middle East and North Africa, 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:

A. Supply & Manufacturing Vaccines Partners:

- 1. Sanofi Pasteur.
- 2. LG Chem.
- 3. BioFarma.
- 4. GC Pharma.

B. Toll Manufacturing Biological Partners:

- 1. AbbVie.
- 2. J&J.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Hexaxim	Hexavalent Vaccine (DTaP+Hib+HepB+IPV)	PFS& Vial	
Menactra	Meningococcal Vaccine (MenACWY-DT)	Vial	
Vaxigrip Tetra	Quadrivalent Seasonal Flu Vaccine (QIV)	PFS	
Euvax 10	Hepatitis B Pediatric	Vial	
Euvax 20	Hepatitis B Adult	Vial	
Arapenta	Pentavalent Vaccine (DTwP+HIB+HepB)	Vial	
Barycella	Varicella Vaccine	Vial	
Mevax	Measles Vaccine	Vial	
OPV	Oral Polio Vaccine (trivalent) 10 ds	Vial	
Stablix	Tetanus Toxoid (TT) Vaccine 10 ds	Vial	
DT	Diphtheria Tetanus (DT) Pediatric Vaccine	Vial	

Future Product Pipe Line

- BCG Vaccine
- Tuberculin Test

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

Areas of Interest for Collaboration

○ Vaccines:

- Pneumococcal conjugate vaccine.
- Rota virus vaccine.
- Hepatitis A vaccine.
- MMR / MMRV vaccines.
- HPV Vaccine.
- COVID-19 Vaccine
- Dengue Fever vaccine.

Others:

- Insulin
- Blood products
- Growth hormones
- Erythropoietin

Contact Details

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		Website	: www.arabio.com
	: Factory: Al Umrah District, Makkah Industrial Zone, P.O. Box 20355, Makkah 21955, KSA.		
City	: Riyadh		
State	: Central Province (Riyadh Region)		
Location	: Saudi Arabia		
Postal code	: 11516		



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

Head of Institution : **Mr. 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 Simiao 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 2019, there are four commercialized vaccine products, including Hib conjugate vaccine, MR vaccine and DTaP-Hib vaccine and 23 valent PPSV 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 13 valent PCV, HDCV rabies vaccine, sabin IPV and PENTA 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 four 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 Products

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	Diphtheria, Tetanus, acellular Pertussis, and Hemophilus Influenae type b combined vaccine	Vial	0.5ml+0.5ml
MR	Measles and Rubella combined vaccine	Vial	0.5ml
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		
ACYW135Meningococcal Polysaccharide Vaccine			NDA		2020
DTaP			NDA		2020
Hib (Lyo)			NDA		2020
13-valent Pneumococcal Conjugate Vaccine			NDA		Q2, 2021
Inactivated HepA					
ACYW135 Meningococcal conjugate Vaccine					
Inactivated HepA					
ACYW135 Meningococcal conjugate Vaccine					
Varicella					
HDCV Rabies					
Sabin IPV					
DTaP-Hib (lyo hib)					
DTcP					
DTcP-Hib-sIPV					
5-valent Rotavirus					
MMR					
MMRV					
HPV					
Group B Meningitis					
4 valent Enterovirus vaccine					
60µg Hep B(nasal spray)					

Areas of Interest for Collaboration

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

Contact Details

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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 International Limited (BBIL) was cofounded in 1996 by Dr. Krishna Ella and Mrs. Suchitra Ella with the core focus being development of novel health care solutions for region-specific neglected diseases. The company has fully integrated expertise in R&D, Product Development, Clinical Development, GMP Manufacturing, Quality Management Systems, Marketing and Distribution.

BBIL is a WHO Prequalified manufacturer of BIOPOLIO B1/3[®] (Bivalent Oral Polio Vaccine), ROTAVAC[®] [Oral Rotavirus Vaccine (-20°C)], Typbar TCV[®] (Typhoid Conjugate Vaccine) and ROTAVAC 5D[®] [Oral Rotavirus Vaccine (2° to 8°C)] for supplies to UN agencies. Significant investments from BBIL towards R&D have resulted in development of breakthrough vaccines, such as a Rotavirus vaccine from a naturally reassorted and attenuated strain, the world's first clinically proven Typhoid Conjugate Vaccine. The Drug Substance of Whole virion inactivated SARS-CoV-2 vaccine is being produced in BSL3 Containment Facility at BBIL and for formulation in BSL2 facilities.



BBIL has a history of developing novel health care solutions with focus on developing world populations. Vaccine candidates against Zika, Chikungunya, Cholera and additional SARS-CoV-2 candidates are now in late stage development and are on track to being commercialized in the coming years.

BBIL has filled over 400 patents worldwide and was granted over 160 patents with a strong tradition respecting IPR. With globally accredited facilities, BBIL has supplied more than 4 billion doses of vaccines to over 120 countries worldwide.

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Revac B+ [®]	Recombinant Hepatitis B Vaccine (rdNA)	Vial	0.5/1.0/5.0/10.0 ml
Revac-B mcf [®]	Recombinant Hepatitis B Vaccine (rdNA) [Thiomersal Free]	Vial/PFS	0.5/1.0 ml
INDIRAB [®]	Purified Inactivated Rabies Vaccine (Vero Cell)	Vial	0.5 ml
TYPBAR [®]	Typhoid Vi Capsular Polysaccharide Vaccine	Vial/PFS	0.5/2.5 mL
JENVAC [®]	Japanese Encephalitis Vaccine, Inactivated (Adsorbed)	Vial/PFS	0.5/2.5 mL
HNVAC [®]	H1N1 Pandemic Flu Vaccine	Vial	0.5/.2.5mL
BIO-HIB [®]	Haemophilus Influenza Type b (PRP-TT Conjugate)	Vial	Lyophilized Powder with Diluent 0.5 mL
Typbar-TCV [®]	Typhoid Vi Capsular Polysaccharide-TT Conjugate Vaccine	Vial /PFS	0.5/2.5mL
ROTAVAC [®]	Oral Rotavirus Vaccine 116E (Live attenuated) Storage at -20°C	Vial	0.5/2.5/5.0 mL
BIOPOLIO [®] B1/3	Bivalent Oral Polio Vaccine	Vial	1.0/2.0 mL
ComVac 3 [®]	Diphtheria, Tetanus and Pertussis (w) Vaccine (adsorbed)	Vial/PFS	0.5mL
Com Vac 4-HB [®]	Diphtheria, Tetanus, Pertussis (w) and Hepatitis-B Vaccine	Vial	0.5mL
ComVac 5 [®]	Diphtheria, Tetanus, Pertussis (w), Hepatitis B and Hib PRP	Vial/PFS	0.5/2.5/5 mL
REGEN-D 60 [®]	Recombinant Human Epidermal Growth Factor Gel (60 µg)	Tube	7.5 g/15 g
REGEN-D 150 [®]	Recombinant Human Epidermal Growth Factor Gel (150 µg)	Tube	7.5 g/15 g
SLVRGEN [®]	Recombinant Human Epidermal Growth, Silver Sulfadiazine & Chlorohexidine Gluconate Cream	Tube	15/30 g
BIOGIT	Saccharomyces Boulardii (Granular) 250 mg, oral	Sachet	800g
ROTAVAC 5D [®]	Oral Rotavirus Vaccine 116E (Live attenuated) Storage at 2° to 8°C	Vial/PFS	0.5/2.5 ml
COVAXIN [®]	Whole-Virion Inactivated SARS-COV-2 Vaccine	Vial	0.5/5.0/10 ml
ChiroRab [®]	Purified Inactivated Rabies Vaccine (PCEC)	Vial	1.0

Future Product Pipe Line

- SARS-CoV-2: Inactivated Rabies Vector
- SARS-CoV-2: Replication deficient Adenovirus Vector
- SARS-Cov-2: Replicating deficient Flu Vector (M2SR)
- Zika
- Chikungunya
- Cholera
- NTS Conjugates
- S. Paratyphi
- Sabin IPV
- Malaria PVR III

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
SARS-CoV-2: Inactivated Rabies Vector					
SARS-CoV-2: Replication deficient Adenovirus Vector					
SARS-Cov-2: Replicating deficient Flu Vector (M2SR)					
Zika					
Chikungunya					
Cholera					
NTS Conjugates					
S. Paratyphi					
Sabin IPV					
Malaria PVR III					

Areas of Interest for Collaboration

- Development of novel vaccines
- Development of novel Therapeutics

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Postal code	: 500 078		



Name of the company : **PT Bio Farma (Persero)**

Head of Institution : **Honesti Basyir**

Established : **August 6, 1890**

Indonesia : **Indonesia**

Overview of the company

Bio Farma focuses on research, development, production, marketing and distribution of biological and pharmaceutical products both nationally and globally. Bio Farma plays an active role in advancing the vaccine research and technology, conducting research on new vaccines in the effort of maintaining a sustainable vaccine supply in the country and the availability of vaccines to meet the global needs of high quality and affordable vaccines.

Supported by competence and experience for more than 128 years of learning, Bio Farma, a state-owned enterprise in Indonesia, manufacturing and distributing vaccines and one of a few WHO pre-qualified vaccine manufacturers, is here as part of the struggle to protect and increase the quality of human life.



Playing an important role to establish a healthy nation in which its existence would be maintained for generations to come. With our philosophy of being "Dedicated to improve Quality of Life," we are ready to devote our efforts to Global Health Security, through Biotech for a better future provides solutions for global prosperity.

As part of Global Polio Eradication Initiative, nOPV2 (novel Oral Polio Vaccine type 2) produced by Bio Farma licensed as the first EUL Vaccine from WHO in 2020. For more information : www.biofarma.co.id

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
TT	Tetanus Toxoid Vaccine	Vial Ampoule	5.0 ml/10.0 ml 0.5 ml
DT	Diphtheria and Tetanus Vaccine	Vial	5.0 ml
Td	Tetanus and Diphtheria Vaccine (for adult)	Vial Ampoule	5.0 ml 0.5 ml
DTP	Diphtheria, Tetanus and whole -cell Pertussis Vaccine	Vial	5.0 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
HB	Hepatitis B Vaccine	Uniject	0.5 ml 1.0 ml (for adult)
mOPV1	Monovalent Polio Vaccine type 1	Vial	1.0 ml/2.0 ml
mOPV2	Monovalent Polio Vaccine type 2	Vial	1.0 ml/2.0 ml
bOPV 1&3	bivalent Polio Vaccine type 1 & 3	Vial	2.0 ml
tOPV	Trivalent Oral Polio Vaccine	Vial	1.0 ml/2.0 ml
nOPV2	Novel Oral Polio Vaccine type 2	Vial	5.0 ml

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 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
Covid-19	Covid-19 Vaccine	Vial	5.0 ml

Future Product Pipe Line

- Sabin-IPV (sIPV)
- Rotavirus Vaccine
- Flu Vaccine (Pandemic)
- Measles Rubella Vaccine
- Typhoid Conjugate Vaccine
- Covid-19 Vaccine

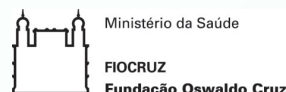
Product Name	Pre Clinical		Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3		
Sabin-IPV (sIPV)						
Rotavirus Vaccine						
Flu Vaccine (Pandemic)						
Measles Rubella Vaccine						
Typhoid Conjugate Vaccine						
Covid-19 Vaccine						

Areas of Interest for Collaboration

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

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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 : **May 04, 1976**

Country : **Brazil**

Overview of the company

Bio-Manguinhos was founded in 1976 to strengthen vaccine manufacturing capacity to meet public health demands, as defined by the Ministry of Health (MoH) National Immunization Program (PNI). Since then, the Institute has played a prominent role in government health programs, investing in innovation, technological development and manufacturing of vaccines, in vitro diagnostics and biopharmaceuticals. Our portfolio is made of 50 products, which are supplied primarily to the Unified Health System (SUS).



To master advanced production processes and state-of-the-art technologies, Bio-Manguinhos besides in house R&D, invests also in partnerships and technology transfer agreements with national and international institutions.

Bio-Manguinhos is also a member of the Executive Group of Health Industrial Complex (Gecis), which brings together government authorities, representatives of the national industry, associations and teaching and research institutions, as well as funding agencies. As a member of Gecis, it contributes to the formulation of health public policies.

The changes go further and the Institute is constantly growing and strengthening its technological capabilities. The Industrial Complex for Biotechnology in Health (CIBS), in Santa Cruz, Rio de Janeiro; and the Vaccines Plant Based Technology Center, in Eusebio, Ceará, are the two newest sites under construction. The building of new facilities will allow the expansion of productive capacity

Current Products

Vaccines

- COVID-19 (recombinant)
- Haemophilus influenzae b (Hib) conjugated
- Yellow fever
- Diphtheria, tetanus and whooping cough + Hib
- Meningococcal ACW
- Pneumococcal 10-valent conjugated
- Poliomyelitis 1 e& 3 oral
- Inactivated poliomyelitis
- Human rotavirus
- Measles, mumps and rubella
- Measles, mumps, rubella and chickenpox

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
IVD Reagents			
NAT Kit HIV/HCV/HBV	Molecular Biology NAT Assay HIV/HCV/HBV	96 reactions/kit	-
NAT Plus Kit (HIV/HCV/HBV/Malaria)	Molecular Biology NAT Assay HIV/HCV/HBV/ Malaria	96 reactions/kit	-
ZDC (Zika, Dengue and Chikungunya)	Molecular Biology Assay for Zika, Dengue and Chikungunya	48 reactions	-
TR DPP® Quick Immunoblot – HIV-1/2	Rapid Test – Immunoblot DPP® HIV 1/2	20 tests/kit	-
TR DPP® HIV-1/2 (SSP & oral fluid)	Rapid Test – DPP® HIV -1/2	20 tests/kit	Oral-fluid or serum/plasma/whole blood
Quick test HIV-1/2	Rapid Test – DPP® HIV- 1/2	20 tests/kit	-
TR DPP® Syphilis	Rapid Test – DPP® Syphilis	20 tests/kit	-
TR DPP® Syphilis DUO	Rapid Test – DPP® Syphilis (Non treponemic and treponemic in the same test)	20 tests/kit	-
TR DPP® HIV / Syphilis Combo	Rapid Test - DPP® HIV / Syphilis Combo (HIV + Syphilis detection in the same test)	20 tests/kit	-
TR DPP® Canine Visceral Leishmaniasis	Rapid Test – DPP® Canine Leishmaniasis	20 tests/kit	-
TR DPP® Leptospirosis	Rapid Test – DPP® Leptospirosis	20 tests/kit	-
DPP® Zika IgM/IgG	Rapid Test – DPP® Zika	20 tests/kit	-
DPP® Chikungunya IgM/IgG	Rapid Test – DPP® Chikungunya	20 tests/kit	-
DPP® Dengue IgM/IgG	Rapid Test – DPP® Dengue	20 tests/kit	-
TR DPP Dengue NS1	Rapid Test – DPP® Dengue	20 tests/kit	-
DPP® ZDC (Zika, Chikungunya, Dengue) IgM/IgG	Rapid Test – DPP® Zika, Chikungunya, Dengue	20 tests/kit	-
IFI Chagas Disease	Immunofluorescence – Chagas Disease	600 tests/kit	-
ELISA Canine Visceral Leishmaniasis (ELISA)	ELISA – Canine Leishmaniasis	384 tests/kit	-

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
IFI Human Leishmaniasis	Immunofluorescence – Human Leishmaniasis	600 tests/kit	
Helm Test	Kato Katz – Helm Test	100 tests/kit	
TR DPP® COVID-19 IgM/IgG	Rapid Test – DPP® COVID-19	20 tests/kit	
Quick Test COVID-19 IgM/IgG - Bio-Manguinhos			
Quick Test COVID-19 Ag Bio-Manguinhos			
Quick Test SARS-CoV-2 Ag - Bio-Manguinhos			
TR DPP® COVID-19 AG			
Quick Test Chagas	Rapid Test – Chagas	20 tests/kit	
Molecular kit SARS-CoV-2 (E/RP)	Molecular kit SARS-CoV-2	24, 96 (2x48) reactions	
Molecular kit SARS-CoV-2 (EDx);	Molecular kit SARS-CoV-2	24 reactions	
Molecular Yellow Fever Kit			

PS: DPP® = Dual Path Platform.

Biopharmaceuticals: (derived from Technology Transfer)			
Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Alfainterferon 2b	Interferon alpha 2b recombinant	Vial	3, 5 and 10MUI
Alfaepoetin	Erythropoietin recombinant	Vial	2.000 / 4.000 / 10.000 UI/
Alfatalglucerase	Taliglucerase alfa	Vial	200 U
Infliximab	Infliximab	Vial	100 mg
Betainterferon 1a	Betainterferon 1a recombinant	prefilled syringe	22 and 44 mcg
Etanercept	Etanercept biosimilar	prefilled syringe	50mg
Somatropin	Somatropin biosimilar	Vial	4UI and 12UI
Rituximab	Rituximab biosimilar	Vial	10 ml and 50 ml
Trastuzumab	Trastuzumab biosimilar	Vial	150mg
Golimumab	Golimumab	prefilled syringe	50mg

Future Product Pipe Line

- Measles and Rubella Vaccine
- Yellow Fever Vaccine Improvement (attenuated)
- Zika Vaccine
- Conjugate Meningitis C Vaccine
- Conjugated Multivalent Meningitis Vaccine
- S.agalactiae and A.baumannii conjugate vaccine
- NAT Assay new targets
- Flex NAT Assay
- Yellow Fever Vaccine (subunit)
- Yellow Fever Vaccine (inactivated)
- Humanized anti-MRSA Monoclonal Antibody
- Liquid Microarray
- Molecular Platform for Epidemiological Surveillance
- Antibody biosimilar for cancer
- COVID-19 synthetic vaccine
- COVID-19 subunit vaccine
- COVID-19 RNA vaccine

Project Portfolio By Product Line

	Non-clinical development	Clinical Development	Technological Development product improvement	New product technology transfer	Total
Bacterial Vaccines	1	1	-	2	4
Viral Vaccines	2	2	1	4	9
Biopharmaceuticals	2	-	-	10	12
IVD reagents	2	-	-	3	5
Total	7	3	1	19	30

Areas of Interest for Collaboration

- Prokaryotic expression ○ Eukaryotic expression ○ Conjugation ○ Plant based

Contact Details

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Biological E. Limited

Celebrating Life Every Day

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

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

 Established : **1953**

 Country : **India**

Overview of the company

Biological ELtd (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, Pan American Health Organization and various Ministries of Health globally. 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, Td and MR. BE is the first company in the world to get WHO prequalification for Japanese Encephalitis Vaccine. BE is in the process of obtaining WHO Prequalification for various vaccines viz Hepatitis B, Typhoid Conjugate Vaccine and Pneumococcal Conjugate 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 global markets.

In view of the current pandemic scenario, BE is actively working on the development of COVID-19 vaccine with RBD technology which is targeted to get licensed by Sept/Oct 2021 in India. This will enable the organization to cater to the needs of India and other global community to combat the current pandemic situation and contribute immensely to bring down the CORONA virus spread under control.

Current Products

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
		PFS	Single dose
BETT	TT Adsorbed Tetanus Vaccine	Vial	1, 10 and 20 dose
		Ampoule	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
		PFS	Single dose
MRBEV	MR Measles and Rubella Vaccine (Live) (Attenuated, Freeze Dried)	Vial	0.5 mL, 2.5 mL & 5 mL
TYPHIBEV	Typhoid Conjugate	Vial	1, 5 & 10 dose
OTHER VACCINES :			
BEVAC	Hepatitis B Hepatitis B vaccine (recombinant)	Vial	1, 2, 5 & 10 dose Pediatric and 1 & 10 dose Adult
BI VAC	DT Adsorbed Diphtheria & Tetanus vaccine (for Pediatric)	Vial	1, 10 & 20 dose
HIBE	Hib Haemophilus type b conjugate vaccine (lyophilized)	Vial (combipack)	1, 2, 5 & 10 dose
ANTI SERA PRODUCTS			
Anti Snake			
Snake Antivenin	Snake Antivenin (Polyvalent)	Vial	10 mL
BEAFRIQUE-10	Anti Snake Venom Serum – Pan Africa (10)	Vial	10 mL
BEAFRIQUE-6	Anti Snake Venom Serum – Central Africa (6)	Vial	10 mL
BEAFRIQUE-1	Anti Snake Venom Serum – Monovalent – Echis Ocellatus	Vial	10 mL
Anti Tetanus			
BEATS	Tetanus Antitoxin	1mL Ampoule	1500 IU / mL
BEATS	Tetanus Antitoxin	1mL Ampoule	3000 IU / mL
Anti-diphtheria			
BEADS	Diphtheria Antitoxin	10mL Vial	1000 IU / mL

Future Product Pipeline

- COVID -19 - CORBEVAX RBD protein subunit with adjuvant
- PCV - Pneumococcal Conjugate Vaccine
- IPV - Inactivated Polio Vaccine
- Hexavalent - DTWP-IPV-Hib-HepB

Sera in Pipe Line

- Scorpion Venom Antiserum (Bivalent & Trivalent)
- Covid Anti-serum Immunoglobulin

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

Areas of Interest for Collaboration

- Vaccines – Supply of Finished product, Bulk Ready to Fill & Strategic Partnership
- Long term partnership arrangements

Contact Details

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

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

Established : **2001**

Country : **Thailand**

Overview of the company

BioNet-Asia is a Biotech company with a manufacturing base in Asia and with clinical and business operations in Europe, Asia and Australia.

BioNet aims to provide a rapid and guaranteed access to vaccines against life-threatening infectious diseases to the neediest.

BioNet has been producing new generation recombinant pertussis vaccines containing a genetically-inactivated Pertussis Toxin in a monovalent formulation (aP) and combined with tetanus and diphtheria toxoid (TdaP).



BioNet has also forged several long-term strategic alliances fostering vaccine self-sufficiency and resulting in the production and supply of billions of doses of vaccines worldwide.

For additional information, please visit www.bionet-asia.com

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Pertagen®	Recombinant acellular pertussis vaccine (aP)	PFS	0.5 ml
Boostagen®	Tetanus toxoid, reduced diphtheria toxoid, Recombinant acellular pertussis vaccine (TdaP)	PFS	0.5 ml

Future Product Pipe Line

- Tdap
- DTaP
- DNA COVID-19
- DNA Zika /Dengue

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Tdap					
DTaP					
DNA COVID-19					
DNA Zika /Dengue					

Areas of Interest for Collaboration

- Marketing and Distribution of vaccines
- Vaccine joint development and R&D collaborations
- Technology transfer for COVID-19, Hib, HBV, Rabies
- In-and out-licensing opportunities

Contact Details

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Name of the company : **Biovac (Pty) Ltd**

Head of Institution : **Dr Morena Makhoana**

Established : **2003**

Country : **South Africa**

Overview of the company

Biovac is a South African vaccine development and manufacturing company formed in partnership with the South African Government in 2003.

Vaccine manufacture in Africa is very limited, resulting in the majority of donor funded vaccine volumes being supplied to Africa.



Our vision and mission is to create a world class international African vaccine manufacturer by making a contribution to the world by protecting life through the development, manufacture and supply of needed, quality and effective vaccines and biologicals.

Biovac has built a modern, world class and state of the art manufacturing site located in Cape Town, with vial and pre-filled syringe manufacturing capability making it one of the select few licensed vaccine-manufacturing facilities in Africa.

Biovac has built capacity and know-how in conjugate vaccine development, outlicensing its Haemophilus Influenza type B conjugate vaccine technology to three partners in Asia and the US. With respect to product development, Biovac is working on

the development of a novel multivalent Group B Streptococcus (GBS) conjugate vaccine.

Strategic partnerships are at the heart of Biovac's success in building local capacity in Africa. To date, inward technology transfer projects that Biovac has secured are with two vaccine multinational companies for local formulation/fill-finish of a fully liquid hexavalent combination vaccine and a pneumococcal conjugate vaccine. Biovac is equally proud to be working with DCVMN members in commercialising their vaccines in South Africa and the Southern Africa region.

Current Products

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

- Group B Streptococcus (GBS)

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Group B Streptococcus Vaccine	Current	TBD	TBD	TBD	TBD

Areas of Interest for Collaboration

- 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
- Fill/finish partnership of product for local and regional markets
- Sourcing finished products for the local and regional markets

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 Products

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 : **Zydus Cadila (a.k.a Cadila Healthcare Ltd.)**

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

Established : **1995**

Country : **India**

Overview of the company

Zydus Cadila is a fully integrated, global healthcare provider, with strengths all along the pharmaceutical value chain. With a core competence in the field of healthcare, Zydus Cadila provides total healthcare solutions ranging from formulations, active pharmaceutical ingredients, diagnostics to wellness products and has operations in 55 countries worldwide.



The group launched Exemptia, the world's first biosimilar for Adalimumab. Zydus is also the only Indian pharma company to launch its own patented NCE in India – Lipaglyn (Saroglitazar), the first drug anywhere in the world to be approved for the treatment of diabetic dyslipidemia. Saroglitazar is also the first drug to be approved anywhere in the world for NAFLD (Non Alcoholic Fatty Liver Disease) and NASH (Non-Alcoholic Steato Hepatitis), an unmet healthcare need. The drug has been given an orphan drug status by the USFDA and the European Medicines Agency (EMA) for Primary Biliary Cholangitis. The group has launched a novel biological entity, a cocktail of monoclonal

antibodies-TwinRab for rabies post exposure prophylaxis.

Battling the global pandemic of COVID- 19 with therapeutics, diagnostics and vaccines – the group received emergency use authorization of an indigenously developed Plasmid DNA vaccine ZyCoV-D to prevent COVID-19

The group's origin can be traced to 1952. In 1995, the group restructured its operations and Cadila Healthcare came into being under the aegis of the Zydus group.

The group aims to be a leading global healthcare provider with a robust product pipeline and be a research-based pharmaceutical company. With 23000 people worldwide, the group's mission is to create healthier and happier communities globally.

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
VacTyph	Vi capsular polysaccharide typhoid vaccine	Vial	0.5 ml
ZyVAC TCV	Typhoid-TT conjugated 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/0.25 ml
Twinrab	Cocktail of mAbs (docaravimab and miromavimab) for passive immunization against rabies	Vial	1 ml, 2.5 ml

Future Product Pipe Line

- Tetanus Toxoid
- Tetanus Diptheria
- MMR vaccine
- MR vaccine
- Varicella vaccine
- Measles vaccine
- Pentavalent (DTwP-Hib-Hep B) vaccine
- Hepatitis B vaccine
- MMRV vaccine
- HPV vaccine
- Hepatitis E vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Tetanus toxoid					Q2 2023
Tetanus Diptheria					Q2 2023
MMR vaccine					Q3 2022
Varicella vaccine					Q1 2022
Measles vaccine					NA
Pentavalent (DTwP-Hib-Hep B) vaccine				Q1/2021	NA
Hepatitis B vaccine				Q1/2021	NA
MMRV vaccine				2023	
Hepatitis E vaccine				2022	
HPV vaccine tetravalent				2024	

Areas of Interest for Collaboration

- Tuberculosis vaccine
- Malaria vaccine
- Therapeutic cancer vaccines
- Therapeutic metabolic disease vaccines
- RSV vaccine
- Thermostable vaccine technologies
- New adjuvants
- Rotavirus vaccine
- IPV vaccine
- Next generation Typhoid vaccine

Contact Details

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State	: Gujarat		
Location	: India		
Postal code	: 382481		



Name of the company : **CanSino Biologics Inc.**

Head of Institution : **Dr. Xuefeng YU, Chairman and CEO**

Established : **2009**

Country : **P. R. China**

Overview of the company

CanSino Biologics Inc. (CanSinoBIO, SHSE: 688185, HKEX:06185) is an innovative biopharmaceutical company dedicated to exploring best solutions to the prevention of diseases through cutting-edge research & development, advanced manufacturing and commercialization of innovative vaccine products for human use worldwide.

Since its establishment in Tianjin, China in 2009, CanSinoBIO has experienced tremendous growth with 16 vaccines preventing 13 diseases, including approved vaccines for Ebola virus disease (Ad5-EBOV), COVID-19 (Ad5-nCoV, trade name: Convidecia), and meningitis (MCV2, trade name: Menphecic). CanSinoBIO has been listed on the Main Board of Hong Kong

Exchange and Clearing Limited (HKEx) in March 2019. A year later, CanSinoBIO has successfully listed on the Sci-Tech Innovation Board (STAR Market) of the Shanghai Stock Exchange, making it the first "A+H" dual listing vaccine company. CanSinoBIO is focusing on continually expanding manufacturing capacity for its current vaccine candidates and further enhancing the competitiveness and the scope of its portfolio by promoting the R&D of new vaccine candidates.



Leveraging broad experiences of our accomplished team of scientists and business leaders who had held senior positions at leading pharmaceutical companies in the world, CanSinoBIO has developed four key platform technologies, including adenovirus-based viral vector vaccine, synthetic biotechnology, protein structure design and recombination as well as vaccine formulation technologies.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Ad5-EBOV	Adeno5-based Ebola vaccine	1-dose vial	0.5mL per dose
Convidecia™	Adeno5-based SARS-CoV-2 vaccine	1-dose vial 3-dose vial Pre-filled Syringe	0.5mL per dose
Menphecic™	Bivalent meningococcal conjugate vaccine (A, C)	1-dose vial	0.25mg/5doses

Future Product Pipe Line

- Menhycia (quadrivalent meningococcal conjugate vaccine (A,C, W135, Y)
- DTcP infant (Diphtheria, Tetanus, Acellular Pertussis vaccine for infants)
- DTcP infants (Diphtheria, Tetanus, Acellular Pertussis booster vaccine for infants)
- TdcP adolescents and adults (Tetanus, Diphtheria, Acellular Pertussis booster for adolescents and adults)
- DTcP-Hib combo (Diphtheria, Tetanus, Acellular Pertussis, Haemophilus B combination vaccine for infants)
- PCV13 (Pneumococcal conjugate vaccine, 13 valent, infants)
- PBPV (Protein-based Pneumococcal Vaccine, seniors)
- TB booster (Tuberculosis booster vaccine)

Product Name	Pre Clinical		Clinical		Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Menhycia					Q1 2022
DTcP Infant					
TdcP adolescents & adults					
DTcP-Hib combo					
PCV13					
PBPV					
TB booster					

Areas of Interest for Collaboration

- Novel vaccine technologies
- Localization of production
- Market Access and commercialization

Contact Details

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

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

Established : **March, 2004**

Country : **P.R. China**

Overview of the company

Changchun BCHT Biotechnology Co., established in 2004 and located in Changchun, is a biopharmaceutical enterprise engaging in research, development, production and marketing of vaccines, biologics and peptide drugs.

BCHT has well-established innovative platform by the most talented researchers and with the state-of-the-art facility. The management team consists of the members with strong international background and extensive experience in China in biopharmaceutical industry. BCHT owns among the most advanced R&D laboratories and pilot plants for vaccines and peptide drugs in China. Currently, there are vaccines, varicella and LAIV vaccine, in the market and many products, such as

HIB vaccine and DTP vaccine, in its developing pipeline at the different stages. The manufacturing plant, production process and quality assessment and control are fully with the compliance of GMP requirements and some products aim at receiving WHO prequalification in the near future.

BCHT has established a wide cooperation with international partners for technology promotion and product marketing. For example, LAIV is the project collaborated with WHO. The company's products have received the certificate or are in the process of registration for the permit of market access in many countries. BCHT is to strategically explore the international market and business opportunity with the partners.



Current Products

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 micro carrier bio-reactor with high potency not less than 2.5IU	Vial	1.0ml/vial
Influenza Vaccine, Live, Nasal, Freeze-dried	Attenuated strains made with influenza A and B viruses recommended by WHO	Vial	0.2ml/ Vial

Future Product Pipe Line

- ☐ VZV Vaccine
- ☐ HPV Vaccine
- ☐ RSV Vaccine
- ☐ DTP-Hib Vaccine
- ☐ MMRV Vaccine
- ☐ COVID-19 Vaccine
- ☐ MRC-5 Rabies Vaccine
- ☐ Antibodies (for infectious disease)
- ☐ Tumor Vaccine
- ☐ Alzheimer's Vaccine
- ☐ HSV-2 Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
VZV Vaccine					
HPV Vaccine					
RSV Vaccine					
DTP-Hib Vaccine					
MMRV Vaccine					
COVID-19 Vaccine					
MRC-5 Rabies Vaccine					
Antibodies (for infectious disease)					
Tumor Vaccine					
Alzheimer's vaccine					
HSV-2 Vaccine					

Areas of Interest for Collaboration

- ☐ Vaccines
- ☐ Peptide and chemical drugs
- ☐ Biologics
- ☐ Export

Contact Details

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Location	: P.R. China		
Postal code	: 130012		



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

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

Established : **1919**

Country : **P.R. China**

Overview of the company

China National Biotec Group Company Limited (CNBG) has been dedicated in the field of healthcare since 1919. It's the largest state-owned biopharmaceutical company in China in terms of product portfolio, production capacity and company scope. It has 6 business segments including human vaccines, blood products, animal health, medical aesthetics, diagnostics and biotherapeutics. CNBG is capable to produce 50 kinds of human vaccines against 33 infectious diseases. The annual capacity could reach up to 700M doses. It is the major supplier to Chinese EPI program, supplies over 80% vaccines. It is also the largest blood producer in China, with 1400 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, 1 diagnostic company and 1 public listed company (TiantanBio) for plasma derived products.

CNBG has more than 10,000 employees. The total asset has reached USD 3.6 Bn in 2018 while the total revenue has reached USD 1.6Bn.

Current Products

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	Ampoule/Vial	0.5ml
	Measles, Mumps and Rubella combined vaccine, Live /Measles/MR	Vial	0.5ml
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	Prefilled Injector/ Vial	0.25ml, 0.5ml
Huiyikang	23 Valent Pneumococcal Polysaccharide vaccine	Vial	0.5ml
Loutewei	Live Rotavirus Vaccine (oral)	Vial	3ml
Keerbe	Haemophilus Influenza type b conjugate vaccine	Vial	0.5ml
Shengdoushi	Freeze-dried Live attenuated Varicella vaccine	Vial	0.5ml
Wushengxinling	Rabies Vaccine for human use (VERO cell)	Vial	
	Yellow Fever Vaccine, Live	Vial	0.5ml X 5vial /dose
	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
	Human Hepatitis B/Tetanus/ Rabies Immunoglobulin	Vial	100IU,200IU/ 250IU/ 200IU per vial
LANTOX	Botulinum Toxin A for injection	Vial	50IU,100IU
Yiweile	EV71 vaccine	Vial	0.5ml
	sIPV vaccine	Vial	

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						
Trivalent Reassortant Rotavirus Vaccine						
Typhoid Vi Conjugate Vaccine						
Tetavalent flu						
Hexavalent Rotavirus Vaccine						
13-valent Pneumococcal Conjugate Vaccine						
HPV-4						
HPV-11						
Herpes Zoster live Vaccine						
Therapeutic HepB						
Novel HIV vaccine						

Areas of Interest for Collaboration

- Combined Vaccine
- Tumor vaccine
- Immuno-oncology
- Cell therapy
- Gene therapy
- Novel adjuvant
- New target/ MOA
- New cell substrate
- Formulation
- Overseas clinical research
- Education/Researcher training and exchange

Contact Details

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

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

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 Products

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 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					Q2/2019
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

Contact Details

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

Head of Institution : **Dr Yeongok Baik and Dr Seukkeun Choi**

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, in addition to building a portfolio of vaccines designed to improve global public health. The company was incorporated in March 2010 and has provided customized services for various stages of product development including cell line development, GMP production, validation and regulatory support. It went public on the KOSDAQ Exchange in 2017. EuBiologics's facilities are designed to manufacture a variety of mammalian cell and microbe-derived, protein-based therapeutics and antibodies. EuBiologics has a subsidiary called EUPOP Life Sciences in New York, USA.



The company has become the largest supplier of an oral cholera vaccine to GAVI eligible countries through global stockpile and shipped 65 million doses so far. In parallel with the development of its oral cholera vaccine product ("Euvichol-Plus"), EuBiologics is pursuing a number of other vaccines against diseases such as COVID-19, typhoid fever, meningitis, pneumonia, human papilloma virus, respiratory syncytial virus and herpes zoster virus.

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

Current Products

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	1.5 ml

Future Product Pipe Line

- COVID-19 Vaccine
- Typhoid Conjugate Vaccine (TCV)
- Meningococcal Conjugate Vaccine (MCV)
- Pneumococcal Conjugate Vaccine (PCV)
- Human Papilloma Virus Vaccine (HPV)
- Respiratory Syncytial Virus Vaccine (RSV)
- Herpes Zoster Virus (HZV)

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
EuCorVac-19					2022
EuTCV					2022
EuMCV					2024
EuPCV					2024

Areas of Interest for Collaboration

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

Contact Details

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Name of the company : **GC Pharma (formerly known as Green Cross Corporation)**

Head of Institution : **Il Sup Huh**

Established : **1967**

Country : **Republic of Korea**

Overview of the company

Since its establishment in 1967, GC Pharma has been safeguarding the public health of S. Korea and is now becoming a leader in the global health industry through its focus on developing necessary, but difficult-to-make medicines.

In 1971, GC Pharma (formerly known as Green Cross Corporation) became the first company in S. Korea and the sixth company in the world to establish a plasma fractionation plant. In 2009, it completed the construction of the Ochang Plant,



the largest biotech facility at the time. GC Pharma has been producing and exporting a variety of plasma-derived products, including albumin, immunoglobulin, and antithrombin. The company has acquired unparalleled expertise in plasma fractionation, and continues to research and develop safer and ever more effective next-generation products.

Prevention of disease is another priority at GC Pharma. In 1983, the company became the third in the world to develop a hepatitis-B vaccine, known as Hepavax, followed by in 1988 becoming the first in the world to develop a vaccine against the Hantavirus

hemorrhagic fever (Hantavax). In 1993, GC Pharma became the second in the world to develop a varicella vaccine (Suduvax), and in 2015 it became the fourth in the world to develop a quadrivalent flu vaccine (GC Flu Quadrivalent), thereby establishing itself as a world-class leader in vaccine development.

Current Products

Product Name	Description	Type	Presentation
		Vial/Ampoule	0.5/ 1.0 / 5.0 / 10.0 ml
GCFLU Quadrivalent	Split virion inactivated Influenza Vaccine (quadrivalent)	pre-filled syringe	0.5ml
		vial	0.5ml, 5ml
GC FLU	Split virion inactivated Influenza Vaccine (trivalent)	pre-filled syringe	0.5ml, 0.25ml
		vial	0.5ml, 5ml
Varicella Vaccine – GCC inj.	Varicella vaccine (live-attenuated)	vial	0.7ml
BARYCELA inj.	Varicella vaccine (live-attenuated)	vial	0.7ml
Td Vaccine	Tetanus, diphtheria toxoid vaccine	pre-filled syringe	0.5ml
Hantavax inj.	Inactivated hantaan virus vaccine(Hemorrhagic fever with renal syndrome vaccine)	vial	0.5ml
GCC- Freeze-dried Cell Culture-derived Japanese Encephalitis Vaccine	Inactivated Japanese Encephalitis Vaccine	vial	0.7ml, 0.4ml
Avian Influenza vaccine	Inactivated pre-pandemic avian influenza vaccine (H5N1)	vial	2.5ml

Future Product Pipe Line

- BCG vaccine
- Anthrax vaccine
- Tdap vaccine

Product Name	Pre Clinical	Clinical		Expected launch date Quarter / Year
	Phase 1	Phase 2	Phase 3	
BCG vaccine				2023
Anthrax vaccine				2023
Tdap vaccine				2026

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

Contact Details

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Name of the company : **GreenSignal Bio Pharma Private 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 Private 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 Products

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

Contact Details

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Postal code	: 600024		



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

Head of Institution : **Abdul Muktadir**

Established : **2009**

Country : **Bangladesh**

Overview of the company

Incepta Vaccine Limited (IVL) is a sister concern of Incepta Pharmaceuticals Ltd, the second largest drug manufacturer of Bangladesh.



Incepta Vaccine Ltd. started its journey in 2009 with the objective to provide quality and affordable vaccines for our people as well as for users globally. IVL has been able to create a huge impact on the local vaccine market and has thereby claimed its leadership role among developing countries.

IVL entered collaborative ventures with a number of International vaccine producers. Oral Cholera Vaccine is the first vaccine developed with the support of IVI. We are developing various vaccines in its own R&D laboratory and some of them are in the final stages of clinical studies e.g. HPV vaccine, TCV, etc. Other vaccines e.g., Pneumococcal 13 strains conjugate vaccine is being developed.

IVL is poised to manufacture all the vaccines available at present in the world. We are also in the process of producing some new generation vaccines. We have set up separate facilities for Fill Finish, Bacterial Bulk antigen, Viral Bulk Antigen, Bacterial and Viral Research and Development.

These facilities are equipped with the latest machinery and well trained manpower in the biological field. At present, IVL has the yearly capacity to produce 180 million single doses.

Current Products

(Fill finished)

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Ravix-VC	Vero Cell based Rabies Vaccine	Vial	Lyophilized(1.0 ml) , Single Dose
Influvax	Seasonal Influenzae Vaccine	Vial	0.5 ml (Single Dose)
Vaxitet	Adsorbed Tetanus Vaccine	Vial/ Ampoule	0.5 ml (Single Dose) 5.0 ml (10 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/ Ampoule	1 ml (Each ml contains more than 3000 IU)
Rabix-IG	Rabies immunoglobulin	Vial	5 ml(Each ml contains more than 200 IU)
Vaxpol	Poliomyelitis Vaccine Live (Oral). Bivalent, type 1 and 3	Vial	1.0 ml (10 doses)
PrevaHAV	Inactivated Hepatitis A vaccine	Vial	Adult: 1.0 ml (Single Dose) Pediatric: 0.5 ml (Single dose)
Antivenom	Polyvalent Snake venom antiserum	Vial	10 ml (Lyophilized)
Prote-IG	Human Tetanus Immunoglobulin	Vial	1 ml (Each ml contains more than 250 IU)
Normoglobin	Human Normal Immunoglobulin	Vial	50 ml & 10 ml (Each ml contains 50 mg IgG)
Own bulk			
Hepa B	Recombinant Hepatitis B Vaccine (r- DNA)	Vial	Adult: 1.0 ml (Single Dose) Pediatric: 0.5 ml (Single dose)
Ingovax ACWY	Meningococcal polysaccharide of <i>Neisseria meningitidis</i> Group A, C, Y and W135 Vaccine	Vial	Lyophilized (0.5 ml) , Single Dose; (5.0 ml) , 10 Doses
Cholvax	Inactivated Oral cholera vaccine (Bivalent)	Vial	1.5 ml (single dose)

Future Product Pipe Line

- **Fill finished:**
 - a. Varicella Vaccine
 - b. Human Papilloma Vaccine
 - c. Hepatitis E vaccine
 - d. 23 Valent PPV
 - e. 13 Valent PCV
 - f. Rota Virus Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Rabies Vaccine					Q2/2021
Haemophilus Influenzae B (Hib)					Q2/2021
Typhoid Conjugate Vaccine	To be started by 2020				Q3/2021
Meningococcal ACWY conjugate vaccine	To be started by 2021				
Human Papilloma Virus vaccine (4 valent)	To be started by 2021				

Areas of Interest for Collaboration

- Conjugation technologies
- Bulk antigen supplies
- Development of Rotavirus vaccine
- Any other new generation vaccines & biological

Contact Details

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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 Universal Immunization Programme. IIL is a contract manufacturer of vaccines for leading companies in India.



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 Products

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
Abhayrab PF	Vero cell culture Rabies vaccine	Freeze dried vial with diluent ampoule	0.5 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
Vaxtar 5	Diphtheria, Pertussis, Tetanus, HiB and Hepatitis B vaccine	Vial	0.5 mL and 5 mL

Future Product Pipe Line

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Hepatitis A					2022
MR					2022
Typhoid Conjugate		NA	NA	NA	
Chikungunya vaccine			NA	NA	
Dengue		NA	NA	NA	
Hexavalent vaccine		NA	NA	NA	
Live attenuated COVID 19 vaccine		NA	NA	NA	

Areas of Interest for Collaboration

- Rotavirus vaccine technology
- mRNA Technology

Contact Details

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Name of the company : **Institut Pasteur de Dakar**

Head of Institution : **Amadou Alpha SALL**

Established : **1896**

Country : **Senegal**

Overview of the company

Established in 1896 in St Louis of Senegal as a laboratory and later transferred to Dakar, the Institut Pasteur de Dakar was created in 1924.

The Institut Pasteur in Dakar, where the yellow fever virus was discovered in 1927 « French Neurotropic Virus » invested very earlier in research and development which lead to the development of the yellow fever vaccine.

Manufacturing yellow fever vaccine since 1937, Institut Pasteur de Dakar is one of the 4 WHO prequalified manufacturers to supply the UN Nations and the the only one located in Africa.



Apart from Pasteur's mission (Public Health, Education, Training and .Research), Institut Pasteur de Dakar ambition to play a key role in vaccine manufacturing in Africa through skills development, and to contribute in reducing vaccine preventable diseases.

To increase its production capacity, Institut Pasteur de Dakar is building a new facility (AfricAmaril project) in Diamniadio (new city 40 km far from Dakar).

With regards to the Covid-19 pandemic, Institut Pasteur de Dakar have been comitted by the Government of Senegal to implement a multimodal plateforme to contribute in vaccine production in Africa (MADIBA project)

Apart from vaccine production activities, Institut Pasteur de Dakar develop a platform for Rapid test diagnostic (RTD) for epidemics diseases.

In 2010, the Institut Pasteur de Dakar became a Senegalese non-profit foundation of public utility

Owned by the Government of Senegal and Pasteur Institute in Paris.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Vaccin Amaril Stabilise	Yellow fever vaccine	Ampoule	5, 10 and 20 doses

Future Product Pipe Line

- Covid-19 vaccine

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

Areas of Interest for Collaboration

- R&D
- Tech transfer
- Rapid diagnosis Test

Contact Details

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Name of the company : **Institute of Medical Biology Chinese Academy of Medical Sciences**
 Head of Institution : **You Dan**
 Established : **1958**
 Country : **P.R China**

Overview of the company

The Institute of Medical Biology, Chinese Academy of Medical Sciences (IMBCAMS), integrates basic medical research, postgraduate education with development and production of biological products.

Basing on the solid theoretical basis, rich research accumulation and professional talent teams accumulated in the past 60 years, IMBCAMS has established an independent innovation system for vaccine's R&D. Such a system is a whole industry chain covering from lab scale to industrial scale and even to post-market surveillance. In addition, IMBCAMS also has been rewarded 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" and "National Engineering Research Center of Biological Product on Virus Diseases".



Recently, benefiting from domestic primate resources and accumulated animal experimental experiences, IMBCAMS established a National High-level Biosafety Research Center for Non-human Primate. The center not only becomes an important basic research platform for discovering, monitoring, and preventing infectious diseases, but also provides significant support in responding to acute public health threats.

In the future, IMBCAMS will improve the innovation ability and fasten the steps to internationally standardize our capacity, provide vaccines targeting international market, and devote to the goal of creating human health wealth over the world.

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
	Poliomyelitis Vaccine Type I Type III in Dragee Candy (Human Diploid Cell), Live	Pill	1.0g
	Poliomyelitis (Live) Vaccine Type I Type III (Human Diploid Cell), Oral	Dropper	0.5ml&1.0ml
Weisairuiji	Hepatitis A (Live) Vaccine, Freeze-dried	Vial	1.0ml
Aibiwei	Inactivated Poliomyelitis Vaccine Made From Sabin Strains (Vero Cells)	Vial	0.5ml
EntroVac	Enterovirus Type 71 Vaccine, Inactivated (Human Diploid Cell)	Vial/Prefilled Syringe	0.5ml
	SARS-CoV-2 Vaccine, Inactivated (Vero Cell)	Vial/Prefilled Syringe	0.5ml

Future Product Pipe Line

- F-genotype Mumps (Live)Vaccine (Human Diploid Cell)
- Meningococcal Polysaccharide Vaccine Group A
- Meningococcal Polysaccharide Vaccine Group C
- Meningococcal Polysaccharide Vaccine Group A and C
- SARS-CoV-2 Vaccine, Inactivated (Vero cell)
- Inactivated Monovalent Rotavirus Vaccine
- DTap
- DTaP-sIPV Combined Vaccine
- Inactivated Rotavirus Vaccine, G1+G9
- EV71-CA16 Vaccine
- Influenza Vaccine (Split Virion), Inactivated, Quadrivalent
- Freeze-dries Haemophilus influenza type b conjugate vaccine
- Norovirus Genetic Recombination Virus-like Particles Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
F-genotype Mumps (Live)Vaccine (Human Diploid Cell)					
Meningococcal Polysaccharide Vaccine Group A					
Meningococcal Polysaccharide Vaccine Group C					
Meningococcal Polysaccharide Vaccine Group A and C					
SARS-CoV-2 Vaccine, Inactivated (Vero cell)					
Inactivated Monovalent Rotavirus Vaccine					
DTap					
DTaP-sIPV Combined Vaccine					
Inactivated Rotavirus Vaccine, G1+G9					
EV71-CA16 Vaccine					
Influenza Vaccine (Split Virion), Inactivated, Quadrivalent					
Freeze-dries Haemophilus influenza type b conjugate vaccine					
Norovirus					
Genetic Recombination Virus-like Particles Vaccine					

Areas of Interest for Collaboration

- Product export
- Clinical Trials
- Vaccine development
- WHO pre-qualification

Contact Details

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Name of the company : **Instituto Butantan**

Head of Institution : **Dimas Tadeu Covas**

Established : **23rd February, 1901**

Country : **Brazil**

Overview of the company

Ready to go global

Open for partnerships, in the service of public health

Instituto Butantan supplies the Brazilian public health system with 90% of the sera and 65% of all vaccines distributed in the country. Of the 170 million doses of vaccines dispensed annually by the Brazilian immunization program, 100 million are produced at Butantan.



In particular, Instituto Butantan manufactures 100% of the influenza vaccine doses used by the Ministry of Health. WHO prequalification for this vaccine was achieved in 2021.

Butantan is a public, non-profit institution, part of the São Paulo State Health Department. As its operational branch, private-owned Fundação Butantan allows for agile decision making.

Butantan's main site is located in São Paulo, the state capital and the largest city in South America. This is the most dynamic place for business in Brazil; 78% of the pharmaceutical sales and 74% of R&D expenditure in the country occur in São Paulo State. The organization is set to be a global player in the development and manufacturing of the most advanced and needed biological products, in the service of life and public health.

Current Products

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
COVID-19	Sars-Cov-2 adsorbed vaccine (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
dTPa	diphtheria, tetanus and pertussis (acellular) adsorbed vaccine (dTPa)	Vial	0.5ml
HepA	adsorbed hepatitis A vaccine (inactivated)	Vial	0.5ml

Future Product Pipe Line

- NDV-HXP-S (Covid-19) vaccine
- Quadrivalent Influenza vaccine
- Tetravalent dengue vaccine
- Chikungunya vaccine
- Pentavalent Rotavirus Vaccine
- BCG (recombinant)
- Pandemic Influenza vaccine H7N9
- dTap
- Adjuvant Monophosphoryl Lipid A
- Adjuvant Silica

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
NDV-HXP-S (Covid-19) vaccine					2022
Quadrivalent Influenza vaccine					2022
Tetravalent Dengue Vaccine					2023
Chikungunya Vaccine					2024
Pentavalent Rotavirus Vaccine					ND
Diphtheria, tetanus and pertussis (acellular) adsorbed vaccine (dTPa)					2026
BCG (recombinant)					ND
Adjuvant Silica					ND
Adjuvant Monophosphoryl Lipid A					ND

Areas of Interest for Collaboration

- Product's Innovation
- Combined vaccines
- Adjuvants
- Clinical Trials

Contact Details

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Name of the company : **Korea Vaccine Co., Ltd.**

Head of Institution : **Choi, Duck Ho**

Established : **1956**

Country : **Republic of Korea**

Overview of the company

KoreaVaccine(KV) is a vaccines and medical devices company in Korea. Since 1956, KV has made an effort to manufacture (fill & finish) and distribute high quality biological products as well as medical devices to achieve our vision which is 'Improvement of the contribution to the better society.'

To accomplish our vision, KV not only focuses on researching and developing new and better products, but also provides services to various biological companies in CMO, CLO, and CSO areas based on its outstanding human resource, technology and infrastructure combined with our passion and sincerity.



With an effort to become an incubator of bio-industry in Korea and lead continuous innovation in our business, KV became one of the top players in Korean vaccine market especially in pediatric segment.

For healthier society and better life, KV will continuously improve our product, and expand its global network for the well being of all stakeholders.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Kovax-Influ PF Inj. (tri, quad)	Seasonal influenza vaccine	Pre-filled syringe	0.25ml, 0.5ml
Kovax-Flu Inj. (tri, quad)	Seasonal influenza vaccine	Pre-filled syringe	0.25ml, 0.5ml
Freeze-dried BCG vaccine for percutaneous use	BCG vaccine (Tokyo172 strain)	Ampoule	12mg x 1 amp 0.15ml x 1 amp of saline solution

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

- Vaccine development
- Transfer of vaccine bulk for commercialization in Korea
- Pre-filled syringe CMO (fill & finish)
- CLO & CSO for Korean MFDS registration and local distribution

Contact Details

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

Head of Institution : **Hak Cheol Shin**

Established : **1947**

Country : **Republic of Korea**

Overview of the company

LG Chem developed and commercialized an array of pharmaceuticals for human and animal applications since 1984. LG Chem successfully developed hepatitis B vaccine (EUVAX B™ Inj.) which is used in more than 80 countries and represented the major portion of overseas sales. Further to hepatitis B vaccine, LG Chem successfully developed Hib vaccine (Euhib™ Inj.) and tetravalent DTP-based combined vaccine DTwP-HepB (Euforvac™ Inj.), as a component of pentavalent vaccine by reconstitution DTwP-HepB/Hib(Euforvac-Hib™ Inj.). In 2016, LG Chem launched a fully-liquid pentavalent vaccine(Eupenta™



Inj.) based on the accumulated technology and knowhow for UN vaccine market. LG Chem was selected as one of tech transfer recipient of Sabin IPV by WHO, and based on this technology, LG Chem successfully launched Sabin Inactivated Polio Vaccine (Eupolio™ Inj.) in 2020 and continues to develop fully internalized DTwP-HepB-sIPV-Hib hexavalent vaccine. Through the long development history LG Chem accumulated broad experiences in vaccines and came to have very strong capability in vaccine development. In the future, LG Chem will remain a leader in life sciences and biotechnology-value added areas that are knowledge intensive.

Current Products

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	0.5/1.0/5.0/10.0 ml
Euvax B™ Prefilled Syringe	Recombinant Hepatitis B vaccine	Syringe	1.0 ml
Euhib™ Inj.	<i>Haemophilus influenzae</i> type b vaccine	Vial Lyophilized	0.5 ml
Eupenta™ Inj.	Adsorbed diphtheria, tetanus, whole cell pertussis, hepatitis B and <i>Haemophilus influenzae</i> type b combined vaccine	Vial Liquid	0.5/5.0 ml
Eupolio™ Inj.	Sabin Inactivated Polio Vaccine	Vial Liquid	0.5/2.5 ml

Future Product Pipe Line

- Hexavalent vaccine

Product Name	Pre Clinical		Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3		
Hexavalent vaccine						Q4/2024

Areas of Interest for Collaboration

- Development and marketing partnership for novel vaccine products
- Marketing alliance for biologics

Contact Details

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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 Products

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

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Name of the company : **Medigen Vaccine Biologics Corporation**

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

Established : **October, 2012**

Country : **Taiwan**

Overview of the company

Medigen Vaccine Biologics Corporation (MVC), founded in 2012 and located in Hsinchu, Taiwan, is devoted to developing innovative pharmaceutical products with cell-culture technologies and single-use production systems.

Currently, MVC has Enterovirus 71 (EV71) vaccine, Dengue vaccine, Pandemic Influenza vaccine (H7N9), and Quadrivalent Influenza Vaccine (QIV) under clinical development. Among them, Enterovirus 71 has the most advanced timeline, currently at enrollment of Phase III. Besides vaccine, MVC also extends our cell-based technology to biosimilar, developing anti-Respiratory Syncytial Virus (RSV) mAb by cooperation with UCAB and other partners.



MVC's manufacturing plant fully complies with PIC/S GMP. From the production of vaccine bulk to aseptic filling/finishing into either vials or PFS, our integral vaccine production line fulfills the stringent requirement, and with annual capacity at up to 45 million PFS.

MVC values cooperation. Our key partners are located all around the world, including US NIH, SII, UCAB, GC Pharma, and etc.

Through building of pipeline, pursuing of quality, and establishing of cooperation, MVC endeavors to become one of the leading

pharmaceutical companies producing the needed pharmaceutical products. Our commitment is to improve global health for better life.

Current Products

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

Future Product Pipe Line

- Enterovirus 71 (EV71) Vaccine
- Dengue vaccine
- Pandemic Influenza Vaccine (H7N9)
- Anti-RSV mAb
- Rotavirus vaccine
- Quadravalent Influenza Vaccine (QIV)

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Ev71 Vaccine					
Dengue vaccine					
H7N9 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
- Contract manufacturing and development (CDMO)

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Name of the company : **LLC NANOLEK**

Head of Institution : **Vladimir Khristenko, President**

Established : **2011**

Country : **Russia**

Overview of the company

NANOLEK is a Russian biopharmaceutical company that specializes in the production of import-substituting and innovative drugs both developed in-house and in partnership with international partners.

NANOLEK is focused on the development and production of drugs for the prevention and treatment of socially significant diseases.

The company's diversified product portfolio includes vaccines, drugs for treatment of cancer and rare diseases, HIV and others.

The company has a unique experience in the field of technology transfer through partnerships with leading global pharmaceutical companies such as Merck, Sanofi, Yanssen, Novartis, Egis, Aspen, Celltrion and others.



The company now employs more than 700 people, 35% of whom are highly-qualified biotechnology scientists.

NANOLEK's biomedical center is located in the Kirov region on 14 hectares. The high-tech production facility covers an area of 30,000 square meters and meets GMP and ISO standards. It includes laboratories, an R&D center, vaccine, biopharmaceutical and solid formulation production areas and warehousing.

Like any modern international company, Nanolek fulfills its obligations regarding the implementation of social responsibility programs geared toward environmental protection, health and safety of the personnel, training programs for staff members who specialize in the field of bio-pharmaceuticals.

NANOLEK is open to any kind of cooperation which contributes to the development of the pharmaceutical industry focusing on the priorities of WHO policies.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Polimilex	Inactivated poliovirus vaccine (in partnership with Bilthoven Biologics)	Vials	Suspension 0.5 ml
Pentaxim	Vaccine for prevention of diphtheria, tetanus, pertussis, poliomyelitis and Hemophilus infection type b (in partnership with Sanofi Pasteur)	Vials	Lyophilizate 0.5 ml

Future Product Pipe Line

- POLIOVAXIN – sIPV vaccine solution 0.5 ml
- PNEUMOTEX – PCV vaccine suspension vial 0.5 ml
- HPV-4 vaccine – suspension, vials and prefilled syringes 0.5 ml

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
sIPV vaccine					2021 (In registration)
PCV vaccine					2022
HPV-4 vaccine					2025
sIPV vaccine					2021 (In registration)

Areas of Interest for Collaboration

- Localization projects for the Russian Federation and EAEU countries
- Global exports of sIPV and HPV-4 vaccines
- Early stage or late stage in-licensing of vaccines

Contact Details

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Name of the company : **Panacea Biotec**

Head of Institution : **Dr Rajesh Jain, Ph.D., Managing Director**

Established : **February 1984**

Country : **India**

Overview of the company

Panacea Biotec is one of the largest biotechnology company in India. We are a progressive, Innovative biotechnology company with high focus on Research & Development, Manufacturing, Marketing operations across Pharmaceuticals, Vaccines and Biosimilars. We specialise in complex generics, vaccines, and novel drug delivery platforms to offer higher value and better health outcomes for our patients, governments, and overall society.

Our biological production facilities have capabilities for both Drug Substance and Drug Product for cell-culture, viral recombinant, bacterial proteins, and recombinant bacterial vaccines. We also have a dedicated monoclonal antibody manufacturing facility for mammalian cell-culture related products.



We believe in our innovative vaccine program that will consistently deliver Next Generation Vaccines to safeguard the future of our children and help alleviate poverty.

Our sales and marketing operations span all corners of India with over 800 medical representatives to market to 150,000 doctors across specialties such as Nephrology, Surgeons, General Physicians, Consultant Physicians, Endocrinologists, Orthopedics, Gastroenterologists, Pediatricians' etc.

With partnerships with many multinational companies such as Apotex, GSK, Bayer, etc. from contract research to manufacturing to out-licensing our innovative products; we believe in synergistic relationships that we nurture and develop; we believe in solving challenges that make the world a better place.

Current Products

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)
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)
Easyfour-TT	DTwP-HibTT Fully liquid Tetavalent Vaccine	Glass Vial, Glass PFS	SDV, PFS
Easyfive-TT	DTwP-HepB-Hib Fully liquid Pentavalent Vaccine	Glass Vial, Glass PFS	SDV, MDV (10-dose), PFS
EasySix	DTwP HepB-Hib-IPV (Salk) Fully liquid Hexavalent Vaccine	Glass Vial, Glass PFS	SDV, PFS, MDV (4-dose)

SDV = Single Dose Vial

MDV = Multi Dose Vial

PSF = Pre-filled Syringe

Future Product Pipe Line

- 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				2022	2023
Dengue vaccine			-	2022	2023
Tetanus diphtheria (reduced)		2021	-	2022	2023
Varicella	2020	2022	-	2022	2023
Sabin Inactivated Polio Vaccine (sIPV)	Under Development	2020	-	-	2024
DTaP	2021	2022	-	2023	2024

Areas of Interest for Collaboration

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

Contact Details

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Name of the company : **Pasteur Institute of India, Coonoor**
 Head of Institution : **Dr. S.Sivakumar, Director**
 Established : **1907**
 Country : **India**

Overview of the company

The death of a young English lady Lily Pakenham Walsh, due to hydrophobia in the year 1902 who could not get Antirabies treatment in time, led to the establishment of Pasteur Institute of Southern India. Mr. Henry Phipps, American Philanthropist donated to Lord Curzon, the then Viceroy of India, a sum of Rs.50.00 lakhs for the development of Medical Institutions, out of which, a sum of Rupees one lakh was allocated to start the Pasteur Institute of Southern India at Coonoor. The cool and equitable climate led to the choice of Coonoor as the most suitable location for the construction of the Institute. Spread over an area of 16 acres of land the Institute is situated on a grassy knoll on the upper reaches of Coonoor town amidst beautiful surroundings with lush greenery, manicured lawns and flower gardens. It has a glorious tradition of single minded dedication to alleviate the suffering of humanity by its contribution to the research and development of vaccines in the country.



Pasteur Institute of India, Coonoor is a pioneer Institute involved in the production of Antirabies Vaccine since 1907 and DPT group of Vaccines since 1982. The Institute started functioning as Pasteur Institute of Southern India, on 6th April 1907 and took a new birth as the Pasteur Institute of India and started functioning as an Autonomous Body under the Ministry of Health and Family Welfare, Government of India, New Delhi from the 10th of February, 1977. The affairs of the Institute are managed by a Governing Body. The Institute is functioning on a 'no profit no loss' basis. This Institute has been the primary contributor of DPT group of vaccines to the Universal Immunization Programme (UIP), Govt. of India since 1982.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
DPT vaccine	Diphtheria, Pertussis and Tetanus vaccine	Vial	10 doses per vial
DT vaccine	Diphtheria and Tetanus vaccine	Vial	10 doses per vial
TT vaccine	Tetanus Toxoid vaccine	Vial	10 doses per vial
Tissue Culture Anti Rabies Vaccine	Tissue Culture Anti Rabies Vaccine (Vero Cell purified)	Vial	Single Human dose per vial

In the year 2011, the Govt. of India funded to establish cGMP facility for manufacturing DPT group of vaccines with a project cost of Rupees 137.02 crores. 7 new state of art GMP facilities and 2 modified GMP facilities are taken over by our Institute from Management Consultant in Feb. 2019. Currently these facilities are under the process of qualification. The proposed Green field facility for manufacturing of DPT group of vaccines, which is being established, will have total annual installed capacity of 130 million doses (mds). The following are the installed capacities for individual vaccines that are planned to be produced in the new GMP facility,

S. No.	Name of the Vaccine	Installed Capacity (million doses)
1.	DPT Vaccine	60 mds
2.	Td vaccine	50 mds
3.	TT vaccine	20 mds

Future Product Pipe Line

Currently this institute is in the process of expansion of manufacturing facility for DPT group of vaccines. The facilities are commissioned and qualifications are underway. This institute also has proposal on the anvil to produce the following vaccines,

Areas of Interest for Collaboration

- Recombinant Hepatitis B Vaccine rDNA (Hep B)
- Sabin Injectable Polio Vaccine (sIPV)
- Hexavalent Vaccine
- Conjugate Vaccines
- Rotavirus Vaccine (Live & Inactivated)
- Inactivated Japanese Encephalitis Vaccine (JE)
- Vero cell based viral vaccine technologies
- R&D Facilities for vaccine development - This Institute has a strong R&D facility for the developmental studies of existing vaccines and also for newer vaccines using modern recombinant technology. This institute has fruitful collaborations with National Institutes for developing cutting edge technology for futuristic vaccines.

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POLYVAC

Name of the company : **Center for Research and Production of Vaccines and Biologicals (POLYVAC)**

Head of Institution : **Prof. Dr. Nguyen Dang Hien**

Established : **1994**

Country : **Vietnam**

Overview of the company

The Center for Research and Production of Vaccines and Biologicals (formerly the Center for Poliomyelitis Vaccine Production) was established in 1994 by the Ministry of Health of Vietnam with the task of carrying out development and application of new technology for production of vaccine and biological products.

From the end of 1962, OPV has been produced in 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 quality 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 (now bOPV), Center also produces Measles vaccine (MV), Measles - Rubella combined vaccine (MR), Rotavin-M1 vaccine which meets GMP/WHO. Since 2010, Vietnam stop importing measles vaccine while being active in preventing and controlling measles as recommended by WHO. The Rotavirus vaccine has been licensed also from 2012.

Recently, POLYVAC develops new products such as Inactivated Polio Vaccine (IPV), new generation of rotavirus vaccine and SARS-CoV-2 virus rapidly

detection kit. The new rotavirus, heat stable one, will be put in use at the end of 2021.

For additional information about the Center, please visit <http://www.polyvac.com.vn>

Current Products

MVVAC	Live attenuated freeze-dried vaccine	Vial	10 doses/vial
MRVAC	Live attenuated freeze-dried Measles- Rubella combined vaccine	Vial	10 doses/vial
bOPV	Bivalent oral poliomyelitis Vaccine	Vial	20 doses/vial
ROTAVIN-M1	Live oral attenuated Rotavirus vaccine (type G1P [8])	Vial	1 dose/vial

Future Product Pipe Line

Product Name	Pre Clinical		Clinical		Expected launch date Quarter / Year
	Phase 1	Phase 2	Phase 3		
sIPV					2021-2022

Areas of Interest for Collaboration

- Development of COVID-19 vaccines
- New adjuvant development and application to bacterial vaccines

Contact Details

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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**
Ms. Duangporn Pornmuttakun, Assistant Director

Established : **1922**

Country : **Thailand**

Overview of the company

The Queen Saovabha Memorial Institute (QSMI) founded in 1922 and 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.

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).



RESEARCH AND DEVELOPMENT

1. Research for improvement of products 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.

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.

- Biosimilar product (EPIAO Injection 4,000 IU/ml) for human use.

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
BCG Vaccine	lyophilized product of BCG 0.05 mg dose of 0.1 ml and 10 doses per vial	vial	0.5 mg / ml
Rabies vaccine (TRCS Speeda)	lyophilized product of rabies antigen ≤ 3.5 IU / 0.5 ml in vial	vial	0.5 ml
Equine rabies immunoglobulins (TRCS ERIG)	injection liquid of 200 IU / ml	vial	5.0 ml, 2.0 ml
Antivenoms for poisonous snake bite - King Cobra antivenin (<i>Ophiophagus Hannah</i>) - Cobra antivenin (<i>Naja Kaouthia</i>) - Banded Krait antivenin (<i>Bungarus fasciatus</i>) - Malayan Pit Viper antivenin (<i>Calloselasma rhodostoma</i>) - Russell's Viper antivenin (<i>Daboia russelli siamensis</i>) - Green Pit Viper antivenin (<i>Trimeresurus albolabris</i>) - Malayan Krait antivenin (<i>Bungarus candidus</i>) - Neuro polyvalent antivenin (<i>Naja kaouthia</i> , <i>Ophiophagus hannah</i> , <i>Bungarus fasciatus</i> and <i>Bungarus candidus</i>) - Hemato polyvalent antivenin (<i>Calloselasma rhodostoma</i> , <i>Trimeresurus albolabris</i> , <i>Daboia russelli siamensis</i>)	All are lyophilized snake antivenoms in 20 ml. vial and packed with Water for Injection 10 ml.	All are in vial	All are 10.0 ml after reconstituted with solvent

Future Product Pipe Line

(imported bulk vaccine for formulation and filling)

- **EPIAO Injection** : Human Recombinant Erythropoietin Alfa Injection, 1 ml (4,000 IU), produced by recombinant DNA in Chinese Hamster Cells (CHO). Ready to fill bulk from Shenyang Sunshine Pharmaceutical Co., Ltd (3SBio).

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

Areas of Interest for Collaboration

- New TB vaccine

Contact Details

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Name of the company : **St. Petersburg Scientific Research Institute of Vaccines and Serums (SPbSRIVS)**

Head of Institution : **Trukhin Victor Pavlovich, PhD**

Established : **1938**

Country : **Russia**

Overview of the company

SPbSRIVS FMBA of Russia is a leading Russian manufacturer of vaccines for the prevention of influenza, has the GMP certificate from PAHO reference center of CECMED, which confirms compliance of technology and production of vaccines with international standards.

From 2016, SPbSRIVS maintains regular supplies of the influenza vaccine to countries of the Latin American region.



In April 2019 the Russian and Nicaraguan project of construction in Managua of the Latin American Institute of Biotechnology MECHNIKOV was realized and the St. Petersburg Research Institute made the transfer of the production technology of influenza vaccine, as well as a number of other immunobiological products.

SPbSRIVS is fully engaged in research activities, both fundamental and applied, devoted to microbiology and virology, experimental immunology, biomedicine in general, and vaccinology in particular. Particular attention focused to the support of young scientists and specialists, as well as the professional development of personnel to the highest qualifications, in particular, the preparation of doctoral research for academic degrees.

The promising development direction for the Institute is the creation of a scientific & practical cluster uniting production, research and educational institutions of FMBA of Russia.

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
PPD skin test	Allergen tuberculosis purified liquid in the standard dilution	Ampoule	1 mL
Flu-M	The Flu-M inactivated split influenza vaccine	Ampoule	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

Vaccine development

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 largest producer of vaccines by number of doses, producing 1.5 billion doses a year that are used in over 170 countries. It is a testament to the vision, grit and innovative approach that Serum Institute has attained world leadership by reaching the unmatched figure of protecting more than 2/3rd of the infant population globally, thus saving the lives of more than 20 million children across the globe. This was achieved by making vaccines available at very affordable prices when these were in acute shortage. Over the last 50 years, Serum Institute has sacrificed more than thousand crores of revenue to achieve this goal. SII is also one of the largest suppliers of WHO prequalified vaccines to U.N. Agencies; and also recognized as the reliable

largest source of high quality & affordable vaccines and biologicals. 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 26 vaccines are prequalified by WHO/Geneva.

Current Products

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
Onco-BCG	BCG for Immunotherapy	Vial	40mg & 80mg /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) Liquid and Lyophilized	Vial	1 & 2 dose (2.5ml per dose)
PCV-10*	Pneumococcal Polysaccharide Conjugate Vaccine (Adsorbed)– 10 Valent	Vial	1 & 5 dose (0.5ml per dose)
Covishield [†]	ChadOx 1 nCoV-19 Corona Virus Vaccine (Recombinant)	Vial	10 dose (0.5ml/dose)

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

[†] WHO granted Emergency Use Listing (EUL) in Feb/2021

Future Product Pipe Line

- Covid-19 Vaccines
- DTaP Vaccine
- TdaP Vaccine
- Measles Vaccine (Dry Powder)
- Aerosol Measles vaccine
- 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 S.A**

Head of Institution : **Alejandro Gil**

Established : **2010**

Country : **Argentina**

Overview of the company

Sinergium Biotech is an Argentine biopharmaceutical company specialized in the research, development, production and commercialization of vaccines and biopharmaceutical products of high complexity.

With unique worldwide characteristics, Sinergium Biotech carries out an innovative production model of strategic partnerships with national and international laboratories that allows: the transfer and availability of state-of-the-art technologies, autonomy in the production and supply of strategic products that previously had to be imported, the generation of new sources of employment with highly qualified professionals, the replacement of imports and the generation of an important export potential. During the influenza A (H1N1) pandemic, the need for a local vaccine production plant in Argentina became evident. In 2010, in partnership with the Swiss company Novartis, the technology transfer process for the local production of influenza vaccines in the country began. In July 2015 bioCSL (a company of the Australian group CSL) and the flu vaccine division of Novartis joined forces to create Seqirus, the second most important company in the world for the production of this vaccine.



This agreement was followed by partnerships with North American companies: Pfizer, for the production of the pneumococcal conjugate vaccine, and MSD (Merck, Sharp & Dohme, an Argentine subsidiary of Merck & Co) for the production of the tetravalent vaccine against HPV.

vaccine, and MSD (Merck, Sharp & Dohme, an Argentine subsidiary of Merck & Co) for the production of the tetravalent vaccine against HPV.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Virafllu Pediatric	Inactivated influenza vaccine	Prefilled Syringe	0,25
Virafllu	Inactivated influenza vaccine	Prefilled Syringe	0,5
Fluxvir	Inactivated with adjuvant MF59C.1	Prefilled Syringe	1,0
SILGARD	Human Papillomavirus (HPV)	Prefilled Syringe	0,5
Carcivac	Onco BCG Vaccine Bacillus Calmette Guérin	Vial	
Vaxipat	Inactivated Hepatitis A Vaccine	Prefilled Syringe	0,5

Future Product Pipe Line

Areas of Interest for Collaboration

- Partnerships for marketing including or not local manufacturing for LATAM
- R&D partnerships of novel vaccines

Contact Details

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

Head of Institution : **Mr. Weidong Yin**

Established : **2001**

Country : **P.R. China**

Overview of the company

Sinovac Biotech Co., Ltd. is one of the leading bio-pharmaceutical companies in China, focusing on research, development, manufacturing and commercialization of human vaccines that protect against infectious diseases.

In 2017, Its Healive® - Inactivated Hepatitis A Vaccine (Human Diploid Cell), has passed the assessment under WHO Prequalification procedures. In 2016, Inlive®, an innovative vaccine developed by Sinovac against HFMD caused by EV71 was commercialized in China. Sinovac is internationally recognized for the successful development of the pandemic influenza vaccine against H1N1 virus in 2009. Sinovac is also the only company in China to produce an avian flu vaccine (H5N1) for human for government stockpiling program, to develop a SARS vaccine candidate which has been tested in a phase I human clinical study in 2014.



Sinovac is currently developing many products including a Sabin-strains inactivated polio vaccine, pneumococcal polysaccharides vaccine, quadrivalent Influenza Vaccine, varicella vaccine etc.

Sinovac has been working with 37 countries to register and export its vaccines products. While we are executing our business plan to "supplying vaccines to eliminate human diseases", Sinovac is open and flexible for any potential collaboration with participants in the global vaccine industry.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
Healive® WHO Prequalified in 2017	Hepatitis A Vaccine (Human Diploid Cell), Inactivated	Vial/ Pre-filled Syringe	0.5ml/ 1.0ml
Bilive®	Hepatitis A & Hepatitis B Combined Vaccine	Vial/ Pre-filled Syringe	0.5ml/ 1.0ml
Anflu®	Influenza Vaccine (Split Virion), Inactivated	Vial/ Pre-filled Syringe	0.25ml/ 0.5ml
Inlive®	Enterovirus Type 71 Vaccine (Vero cell), Inactivated	Vial/ Pre-filled Syringe	0.5ml/ 5ml
Panflu®	Pandemic Influenza Vaccine (inactivated, adjuvanted)	Vial	0.5ml
Mumps	Mumps Vaccine, Live	Vial	0.5ml

Future Product Pipe Line

- sIPV, Poliomyelitis Vaccine (Vero Cell), Inactivated, Sabin Strain
- PPV23, 23-valent Pneumococcal Polysaccharide Vaccine
- QIV, Quadrivalent Influenza Vaccine
- Varicella Vaccine

Product Name	Pre Clinical		Clinical		Expected launch date Quarter / Year
	Phase 1	Phase 2	Phase 3	Phase 3	
sIPV, Poliomyelitis Vaccine (Vero Cell), Inactivated, Sabin Strain					2020
PPV23, 23-valent Pneumococcal Polysaccharide Vaccine					2020
QIV, Quadrivalent Influenza Vaccine					2020
Varicella Vaccine					2019

Areas of Interest for Collaboration

- Strategic collaboration on vaccine regulatory approval and distribution outside of China
- Overseas Vaccine Product Localization
- Vaccine co-development Cooperation
- Merger and Acquisition

Contact Details

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State	: Beijing		
Location	: China		
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Name of the company : **SK bioscience Co., Ltd.**

Head of Institution : **Mr. Jaeyong Ahn**

Established : **2018**

Country : **Republic of Korea**

Overview of the company

SK bioscience, a member of SK Group which is a third-largest enterprise in South Korea, is a leading innovative vaccine and biopharmaceutical company, working rigorously in the frontline of the global public health.

SK bioscience has been devoted to vaccine research and development since its establishment. It has launched cell culture-based trivalent and quadrivalent influenza vaccine, SKYCellflu®, in 2015 and 2016 respectively. SKYZoster® Inj. and SKYVaricella® Inj. have also been successfully commercialized in 2017 and 2018. SKYCellflu® and SKYVaricella® were prequalified by the World Health Organization in 2019.



Utilizing its cutting-edge vaccine development and manufacturing technologies, SK has been collaborating with various public and private institutions for vaccine R&D and manufacture, expanding its vaccine portfolio including a typhoid conjugate vaccine and non-replicating rotavirus vaccines under cooperation with IVI (International Vaccine Institute) and the global organization PATH (Program for Appropriate Technology in Health) respectively, with support of the BMGF (Bill & Melinda Gates Foundation). SK bioscience is also undergoing development for its vaccine candidate against SARS-CoV-2 with support from the BMGF and CEPI, and it has been cooperating to develop and manufacture COVID-19 vaccines with external vaccine development partners as contract development and manufacturing partner.

A state-of-the-art vaccine manufacturing facility of SK bioscience (Andong L-House), located in Andong, Korea, has highly advanced and efficient manufacturing capabilities in producing multiple types of vaccines utilizing its multi-modular and single-use production system since 2014.

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
SKYCellflu® Trivalent	Cell culture-based trivalent inactivated subunit influenza vaccine	Prefilled syringe and vial	0.25mL/0.50mL
SKYCellflu® Quadrivalent	Cell culture-based quadrivalent inactivated subunit influenza vaccine	Prefilled syringe and vial	0.50mL
SKYZoster® Inj.	Live attenuated varicella zoster vaccine for shingles in adult	Vial	0.50mL
SKYVaricella® Inj.	Live attenuated varicella zoster vaccine for chickenpox in children	Vial	0.50mL

Future Product Pipe Line

- SARS-CoV-2 Vaccine
- Human Papillomavirus Vaccine
- Rotavirus Vaccine
- Typhoid Conjugate Vaccine
- Non-Replicate Rotavirus Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
SARS-CoV-2 Vaccine					
Human Papillomavirus Vaccine					
Rotavirus Vaccine					
Typhoid Conjugate Vaccine					
Non-Replicate Rotavirus Vaccine					

Areas of Interest for Collaboration

- Out/In-Licensing of vaccine production & platform technology
- Co-development projects of novel vaccines products
- Contract Development and Manufacturing
- Global Partnership for distributorship

Contact Details

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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 (Oct 2011-Sep 2012) 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 Products

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 Russell'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

Contact Details

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

Head of Institution :

Established : **2000**

Country : **Vietnam**

Overview of the 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.

Being the biggest vaccine manufacturer and supplier for the National Expanded Program on Immunization in Vietnam, 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. Besides, VABIOTECH also imports and provides some other vaccines and biological products to meet the market's demand such as: Mumps, Rubella, MR, Meningococcal, Pentavalent and Varicella vaccines.

VABIOTECH is highly committed to provide its best products at favorable price in order to improve Vietnamese people's health and well-being.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
HAVAX	Hepatitis A Vaccine	Vial	0.5/1.0
Gene-HBvax	Hepatitis B Vaccine	Vial	0.5/1.0
JEVAX	Mouse brain derived Japanese Encephalitis Vaccine	Vial	1.0/5.0
mORCvax	Oral Cholera Vaccine	Vial	1.5/7.5

Future Product Pipe Line

- Hib Conjugate Vaccine
- Cell based Japanese Encephalitis Vaccine
- Cell based Rabies Vaccine
- Dengue Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Hib Conjugate Vaccine					
Cell based Japanese Encephalitis Vaccine					
Cell based Rabies Vaccine					
Dengue Vaccine					

Areas of Interest for Collaboration

- New vaccine research and development
- Vaccine Exportation and Importation
- Filling and secondary packaging

Contact Details

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Name of the company : **VINS BIOPRODUCTS LIMITED**

Head of Institution : **SIDDARTH DAGA**

Established : **1997**

Country : **INDIA**

Overview of the company

Vins Bioproducts Limited is a leading fully integrated anti-sera manufacturing company established in 1997 in Hyderabad, India. Vins has captured substantial market share of Anti-sera product range and developed technology to enhance quality life of the patients. Vins has its presence in India and more than 60 countries across the world. Vins has been a regular supplier to WHO, UNICEF, UNDP and PAHO organizations. Vins facility is approved by International Regulatory Authorities of Ukraine (PICs), Ethiopia, Ghana, Nepal, Kenya, Yemen, Jordan and approved by International distributors like Imres – Netherlands & Mission Pharma – Denmark. And successfully completed the GMP audit of Tanzania FDA.



Vins products are approved by the Regulatory Authorities of Myanmar, Philippines, Thailand, Ghana, Kenya, Nigeria, Zambia, Ivory Coast, Burkina Faso, Congo, Niger, Togo, Mali, Georgia, Uzbekistan, Jordan, Yemen, Nepal, Pakistan, Sri Lanka, etc.. After years of dedicated efforts, Vins Bioproducts Limited has grown into a leading anti-sera company in India conquering 90% of our range of products in 2017-2018

Current Products

Product Name	Description	Type Vial/ Ampoule	Presentation 0.5/1.0/5.0/10.0 ml
Cobra antivenin	Specific anti snake venom for South East Asian region	Vial	10.0 mL
Diphtheria antitoxin 1000 I.U.	For the treatment of suspected and confirmed Diphtheria patients.	Vial	10.0 mL
European viper venom antiserum-6 Ph.Eur.	Specific anti snake venom for Europe region	Vial	10.0 mL
Rabies antiserum 1000 I.U. & 1500 I.U.	For the treatment of category –II and category-III animal bites.	Vial	5.0 mL
Scorpion venom antiserum	Specific anti scorpion venoms for MENA region	Vial	10.0 mL
Snake venom antiserum	Specific anti snake venoms for India, South East Asia, Africa and MENA regions.	Vial	10.0 mL
Tetanus antitoxin 1000 I.U. & 1500 I.U.	For the treatment of tetanus cases.	Vial	1.0 mL

Future Product Pipe Line

- Gas gangrene antitoxin
- COVID antiserum

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
Gas gangrene antitoxin					
Covid antiserum					

Areas of Interest for Collaboration

- Interested in 'Bulk vaccine filling'

Contact Details

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

Head of Institution : **Yunchun Li, Chairman**

Established : **2001**

Country : **P. R. China**

Overview of the company

Established in 2001, Walvax Biotechnology Co., Ltd. (referred to as Walvax) is a listed fast-growing private company mainly engaged in research and development, manufacture and distribution of biopharmaceutical products with a leading industry position for innovative human vaccine in China. Through fast development over the last 19 years, Walvax has established a rich product pipeline for vaccine and constructed an industry leading R&D and commercialization technology platforms and assembled a talented technology and management team with domestic and overseas experience.

Walvax's largest state-of-art manufacturing site is located in Yuxi, a southwestern city of China, with close to a million-square footage facility, producing all 7 vaccine products currently on the market in China and some of them have been launched into overseas market.



Globally, Walvax has exported products to many countries, including the United States, Indonesia, Egypt, Bangladesh, Nigeria and so forth. Walvax has been partnering with international organizations such as DCVMN, WHO, BMGF, GAVI and CHAI. In addition, Walvax got grants from the Bill & Melinda Gates Foundation to support R&D for HPV-2, HPV-9 and COVID-19 vaccine.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 0.5/ 1.0 / 5.0 / 10.0 ml
PCV13-TT	13-valent Pneumococcal Polysaccharide Conjugate Vaccine (Tetanus Toxoid Protein)	Vial & PSF	0.5 ml
PPSV23	23-valent Pneumococcal Polysaccharide Vaccine	PSF	0.5 ml
MPV ACYW135	Group ACYW-135 Meningococcal Polysaccharide Vaccine	Vial	0.5 ml
MPV AC	Group A and C Meningococcal Polysaccharide Vaccine	Vial	0.5 ml
MCV AC	Group A and C Meningococcal Polysaccharide Conjugate Vaccine	Vial	0.5 ml
Hib	Haemophilus Influenzae Type b Conjugate Vaccine	Vial & PSF	0.5 ml
DTaP	Diphtheria, Tetanus and Acellular Pertussis Combined Vaccine, adsorbed	Vial	0.5 ml

Future Product Pipe Line

- Human Papillomavirus Vaccine
- Group ACYW135 Meningococcal Polysaccharide Conjugate Vaccine
- LNP-encapsulated mRNA vaccine (ARCoV) targeting the RBD of SARS-CoV-2
- Recombinant SARS-CoV-2 Vaccine (Chimpanzee Adenovirus Vector) (ChAdTS-S)
- Recombinant SARS-CoV-2 Subunit-based Vaccine

Product Name	Pre Clinical	Clinical			Expected launch date Quarter / Year
		Phase 1	Phase 2	Phase 3	
HPV-2 (16/18)					2021 Q2
HPV-9					2025
MCV ACYW135					2023
ARCoV					2021
ChAdTS-S					2021
Recombinant Subunit-based Covid-19					2021

Areas of Interest for Collaboration

- Agent distribution of finished product
- Secondary packaging
- Bulk transfer
- Tech transfer
- Co-development

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 : **P.R. 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 bivalent vaccine in INNOVAX, with designed capacity of 5 million doses per year and 30 million doses per year.

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, INNOVAX is working on developing HPV vaccine series, an HPV 16/18 bivalent Vaccine--Cecolin® has submitted for BLA review in 2017 in China, an HPV 6/11 bivalent Vaccine in post phase II clinical trial stage and another HPV

9-valent Vaccine in phase II clinical trial.

Current Products

Product Name	Description	Type Vial/Ampoule	Presentation 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	2019
HPV 6/11 bivalent Vaccine	2002-2009	2013-2016	2016-2017	2019-2021	2024
HPV 9-valent Vaccine	2012-2015	2018-2019	2019-2020	2020-2024	2025

Areas of Interest for Collaboration

- Licensing
- Overseas distribution
- Product co-development

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