



NGS for Adventitious Virus Detection

Gibrán Horemheb Rubio Quintanares
Viral Safety

Bundesinstitut für Impfstoffe und biomedizinische Arzneimittel
Federal Institute for Vaccines and Biomedicines



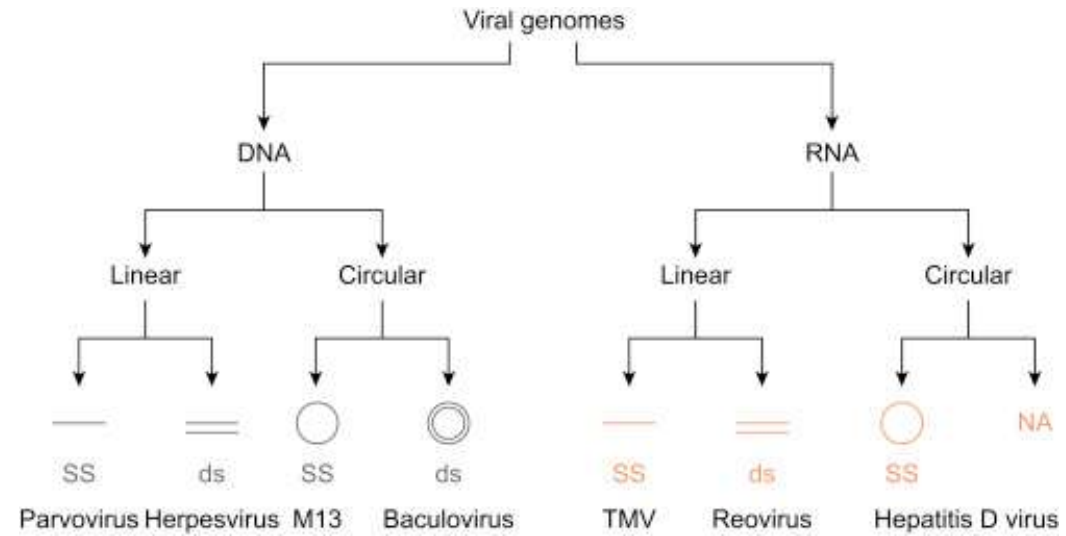
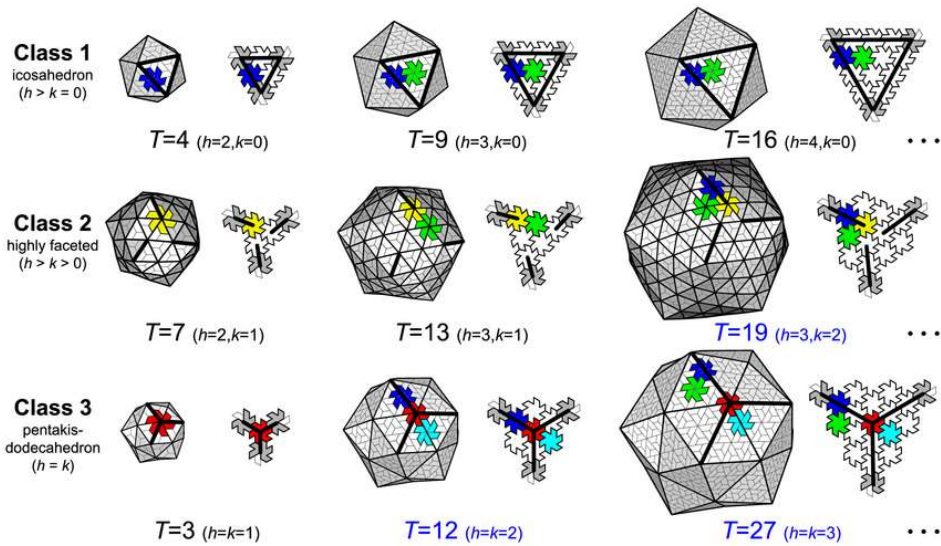
Das Paul-Ehrlich-Institut ist ein Bundesinstitut im Geschäftsbereich des Bundesministeriums für Gesundheit.

The Paul-Ehrlich-Institut is an Agency of the German Federal Ministry of Health.

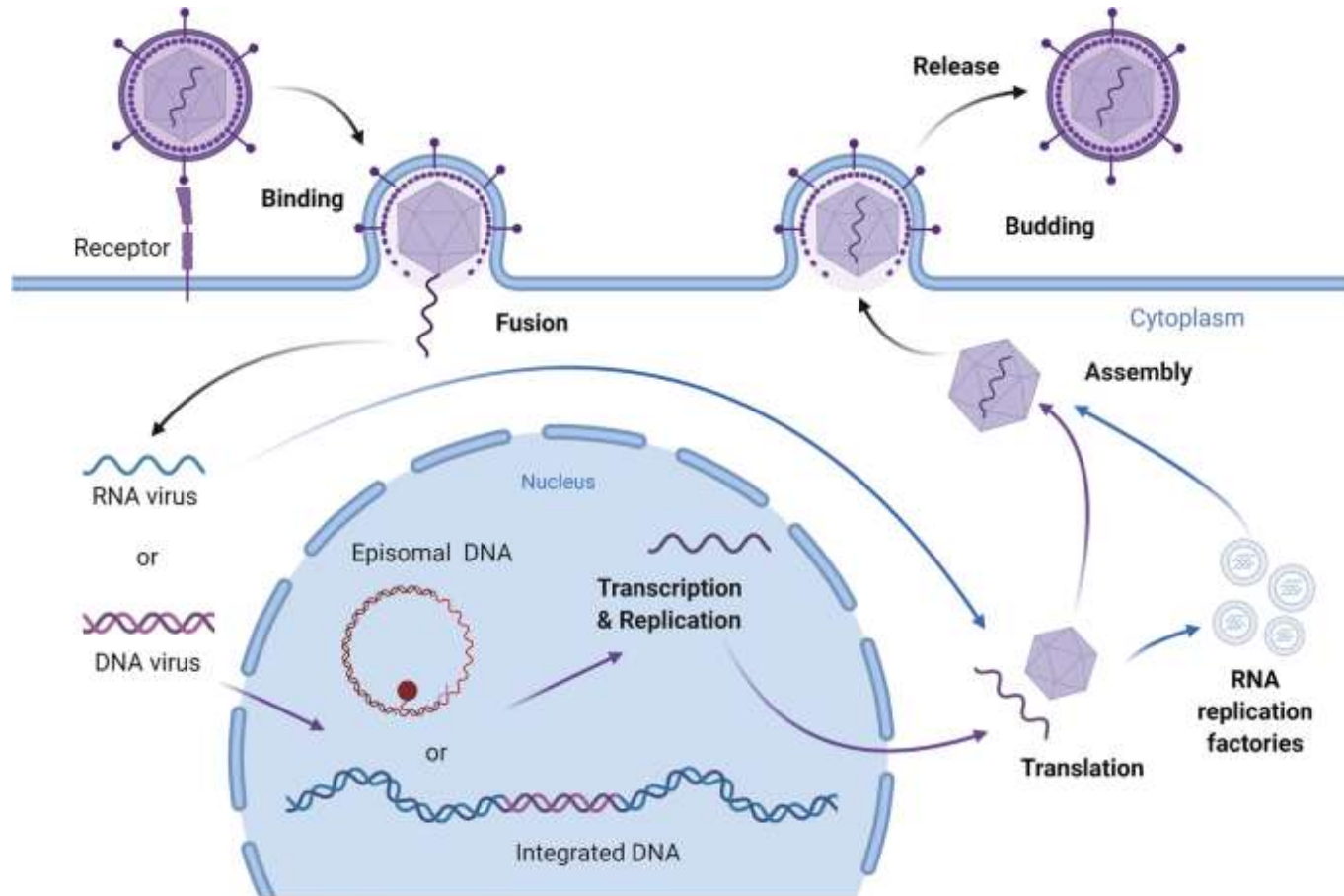
Paul-Ehrlich-Institut



Which is the challenge?



What are we intended to find?



Next Generation Sequencing (NGS) Method or Technology??

1. Sample pre-processing*
2. Nucleic Acid Extraction
3. Post-extraction treatment*
4. Retrotranscription*
5. DNA Double Strand generation
6. Library preparation
 1. DNA-seq
 2. RNA-seq
 3. Multiplexed or Individual
7. Sequencing
 1. Long reads vs Short reads
 2. Depth of sequencing
8. Bioinformatic analysis
 1. Filtering
 2. De novo vs alignment
 3. Database selection
9. Results Analysis
 1. Virology expertise
10. Follow up Investigation

