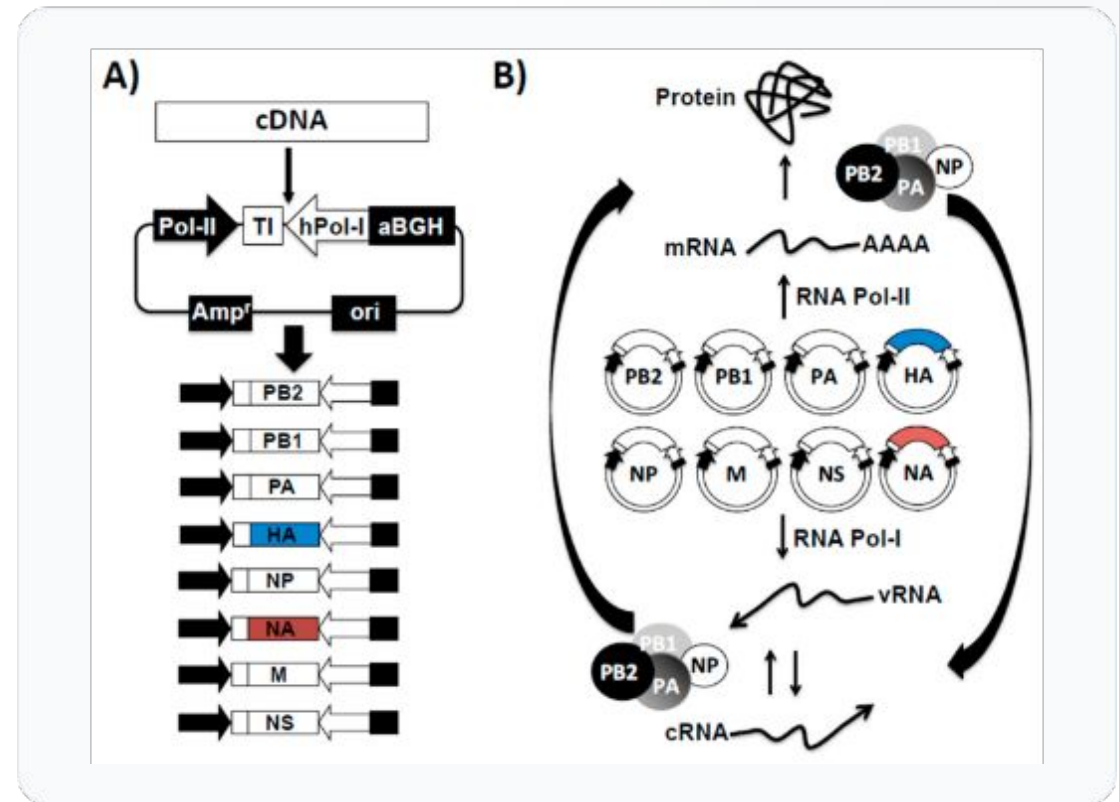

Revolutionizing Influenza Virus Production

An 8-Plasmid DNA Transfection Platform for Scalable, Rapid, and Efficient Viral Generation.

The Eight-Plasmid Reverse Genetics Platform

- ✓ **Dual-Transcription System:** Each viral segment is flanked by both RNA Polymerase (pol) I and pol II promoters.
- ✓ **Negative-Sense vRNA:** pol I initiates the synthesis of the viral genomic segments (vRNA) required for packaging.
- ✓ **Positive-Sense mRNA:** Simultaneously, pol II generates mRNA for the translation of all 10 viral proteins.
- ✓ **Autonomous Assembly:** Host cells (Vero) act as production cell line, assembling infectious particles.



Performance Metrics & Strategic Impact



Rapid strain generation

Rapid generation of new influenza strains from e.g. database sequences following gene synthesis.



Flexibility

Strains can be generated as 1:1 copies of isolates or as 6:2 reassortants with master strains.

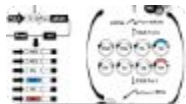


BSL level reduction

Highly pathogenic influenza viruses (e.g. BSL-3) can easily be modified to BSL-2 level without impairing immunogenicity (e.g. H5N1 as vaccine strain)

"This system provides a high-efficiency tool for both recombinant research and industrial-scale vaccine development."

Image Sources



https://www.mdpi.com/ijms/ijms-18-00020/article_deploy/html/images/ijms-18-00020-g003.png

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