Antiviral Defenses: What You Need to Know

Viral Medicine Manufacturing has a fundamental problem with **YIELD**

Current Approaches to Enhancing and Optimizing YIELD:

Optimization of:

- Bioreactor configuration
- Downstream purification methods

Modifications to:

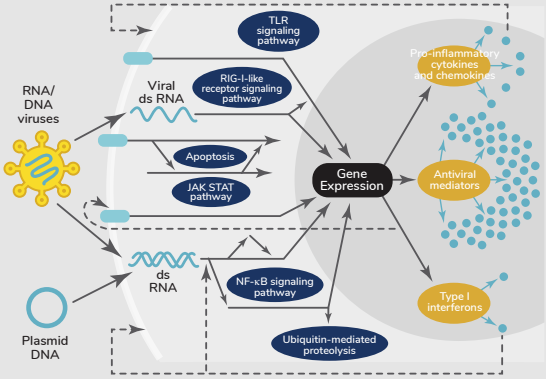
- Cell line and vector design
- Culture media

These approaches do not address the **natural antiviral defenses present in manufacturing cell lines**

What are **Antiviral Defenses?**

They are innate resistance mechanisms that **impede virus production**

They are triggered by **Pathogen Associated Molecular Patterns**, including foreign nucleic acid, which results in the expression of a **large interconnected network** of adapters and effector molecules



Did you know?

Many commonly used producer cell lines have **activatable innate antiviral defenses**, including:

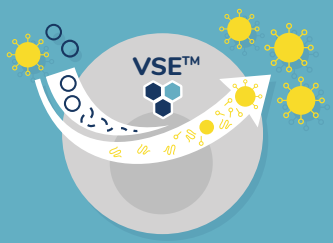
- HEK293 & HEK293T
- Vero
- MDCK

Traditional Methods of Overcoming Antiviral Defenses

	Pros	Cons
RNA Interference (RNAi) Technology	Targeted gene function reduction	• Costly • Complex • Can result in incomplete expression
Knock-Out Cell Lines	Efficient once cell lines are produced	• Permanent • Antiviral targets can overlap with cell proliferation and survival

These methods are complex and not broadly acting!

Novel VSE™ Technology Addresses Cellular Antiviral Defenses



- Virica's Viral Sensitizer technology (VSEs™) are small molecule process additives that **boost upstream viral yields** by **transiently attenuating cellular antiviral defenses**
- Our library of over 100 small molecules increases manufacturing yields across a wide range of substrates and cell lines

For more information, please contact us at
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