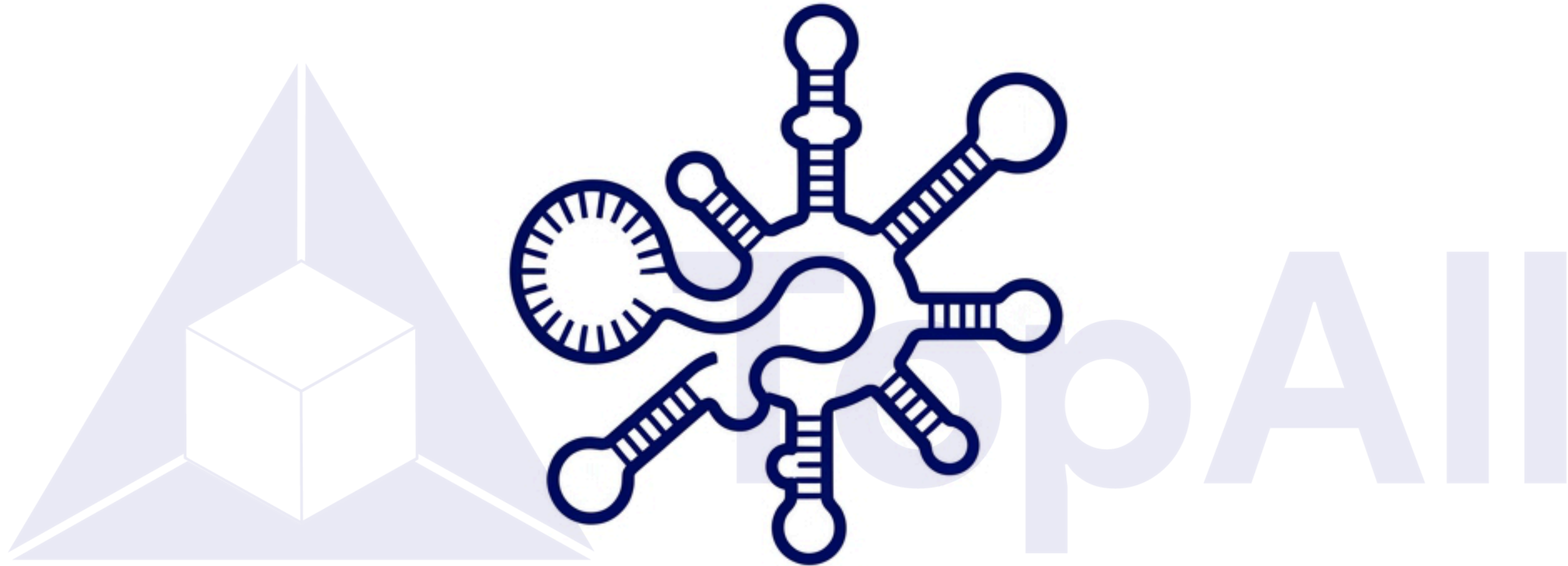




Viroids: Infectious RNA Without a Coat

The Discovery of the "Naked" Pathogen

[Scientist]

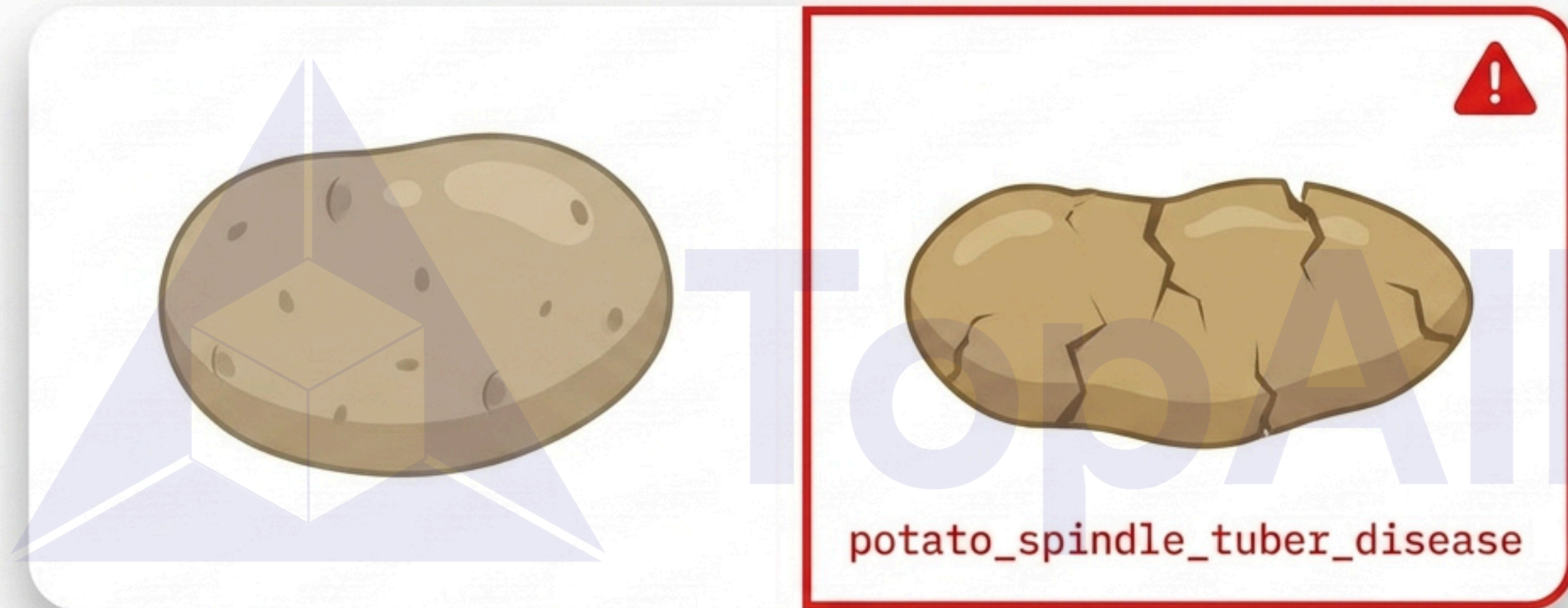
T.O. Diener

[Year]

1971

In 1971, an entirely new infectious agent was discovered that was fundamentally smaller and simpler than any known virus.

Pathological Impact



The first recognized viroid was identified as the causative agent of potato spindle tuber disease, proving that “naked” RNA could be highly infectious.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



Turn theory into marks with **unlimited MCQs, smart analysis, and focused revision.**

Practice Now



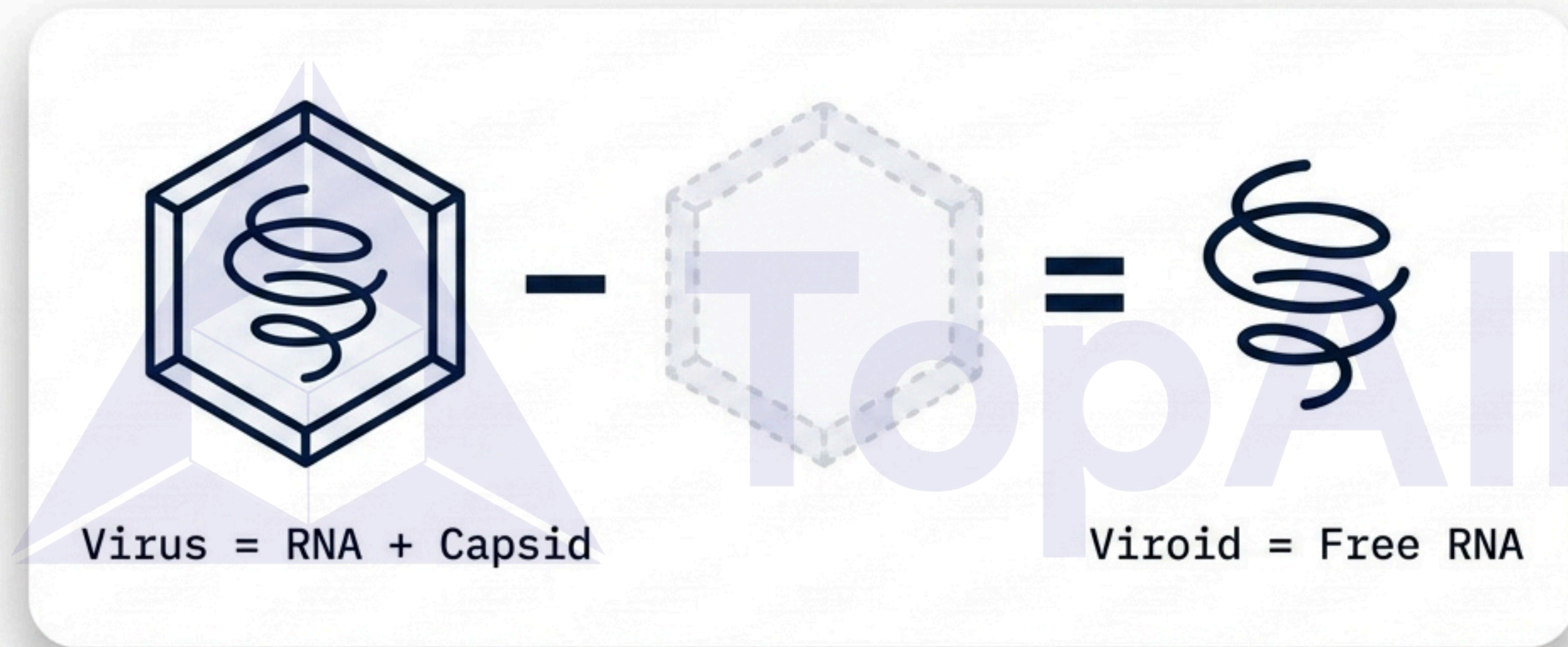
At prep.topall.app

Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter

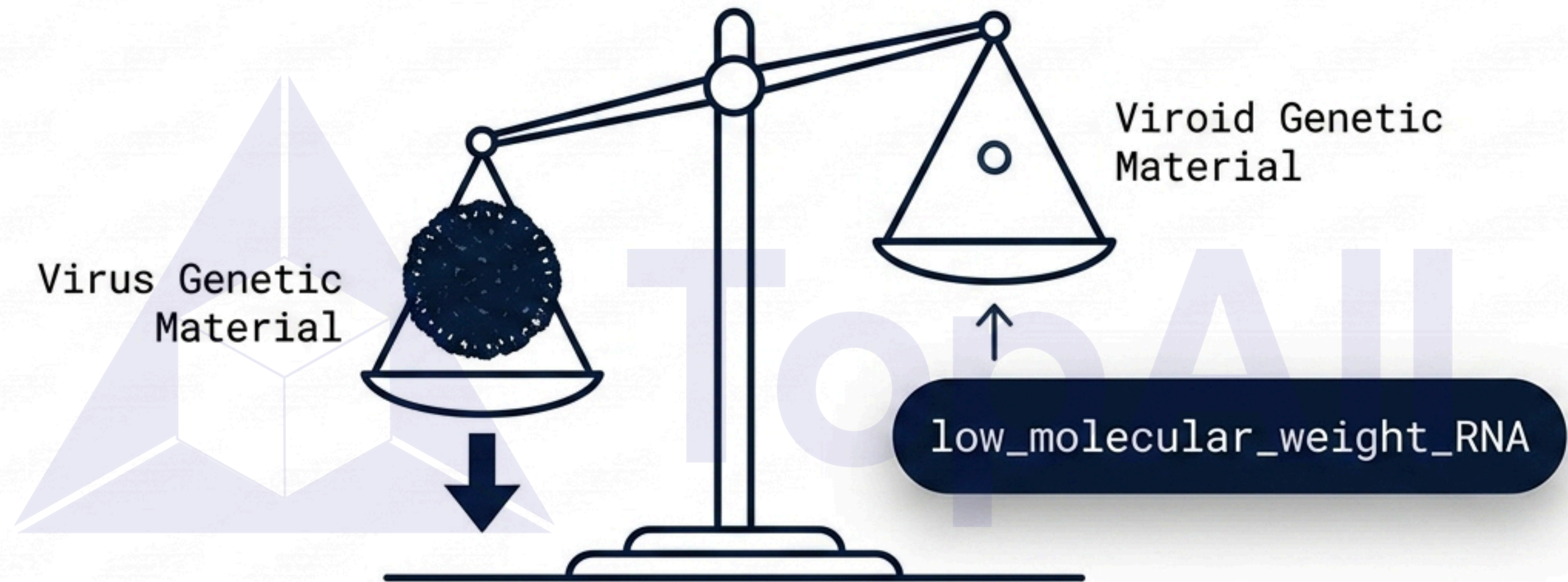


Structural Blueprint: Free RNA



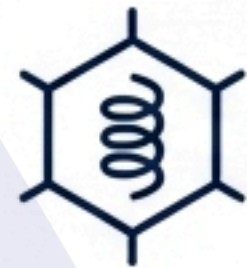
Unlike viruses, viroids completely lack a protective protein coat (capsid). They exist purely as free, infectious genetic material.

A Simpler, Lighter Pathogen



The free RNA of a viroid is exceptionally small. Because it is of low molecular weight, the entire infectious agent is significantly smaller than a virus.

Exam Essentials: Virus vs. Viroid



Virus

Has Protein Coat
(Capsid in monospaced)

DNA or RNA core

High molecular
weight



Viroid

No Protein Coat
(Naked in monospaced)

RNA only in
monospaced

Low MW RNA in
monospaced



You've Learned the Theory.

Now Let's Test It.

Reading notes gets you knowledge.

Practicing MCQs gets you marks.

That's exactly what TopAll Pro is built for.

Try TopAll Pro Now

What TopAll Pro Does Differently

-  **Stuck? Snap it. Solve it. — Doubts AI**
Photo → step-by-step solution in seconds, 24/7
-  **Your AI Coach finds your blind spots**
Concept-level weakness detection — not just chapter-level
-  **4.5 Lakh+ questions. Never run out.**
13× more content than any other prep app in India
-  **Build your own test in 60 seconds**
Pick a chapter, set difficulty — AI does the rest instantly.
-  **AI Recommendation that helps you improve**
AI Recommendation Analysis your Tests and tell you where you need to improve.



Practice the moment you finish studying
Jump in while the concept is still fresh in your head

4.5L+
MCQs

1.5L+
Students

AI Powered
In-Depth Analysis