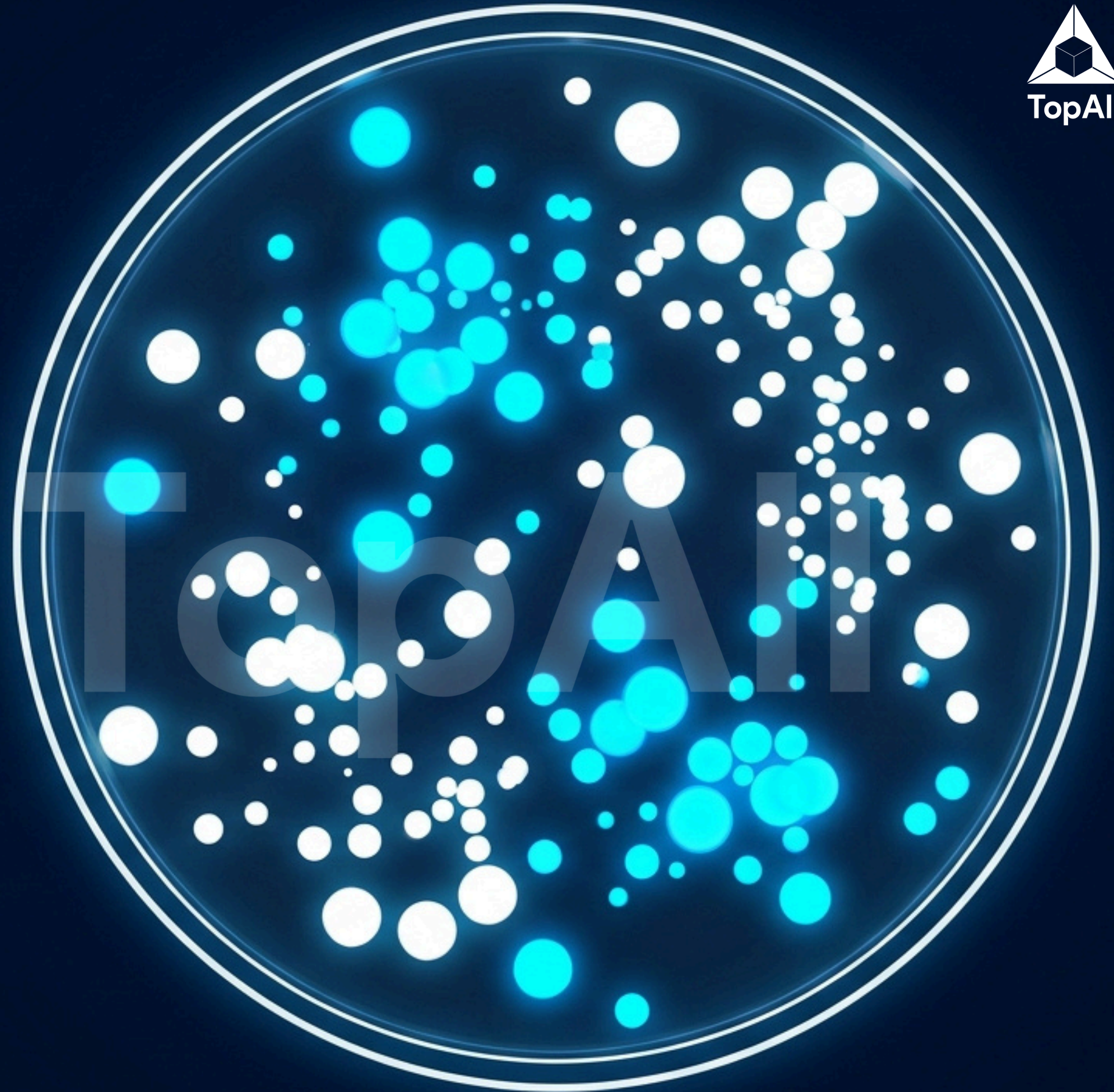


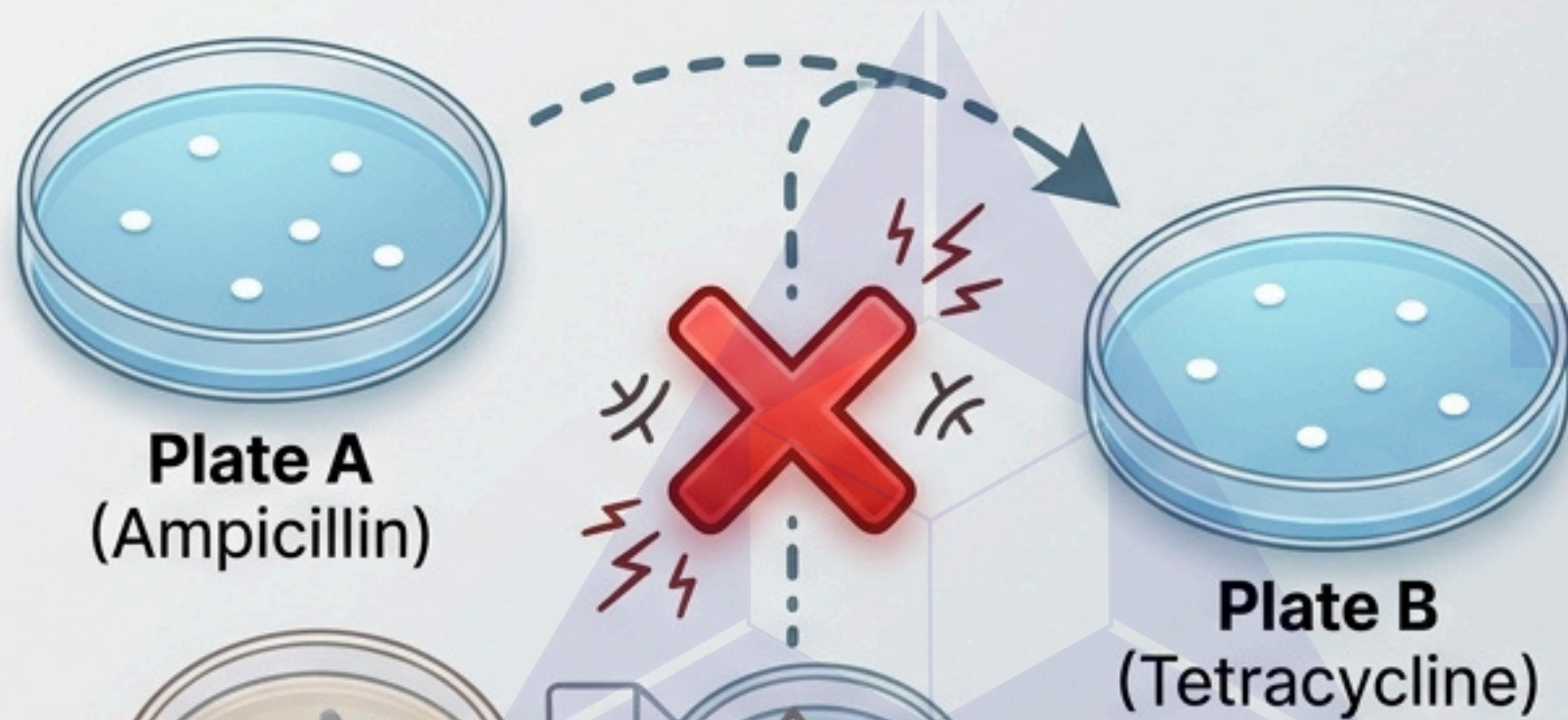
Blue or White? Selecting Recombinants

Understanding Recombinant
Selection via Insertional Inactivation



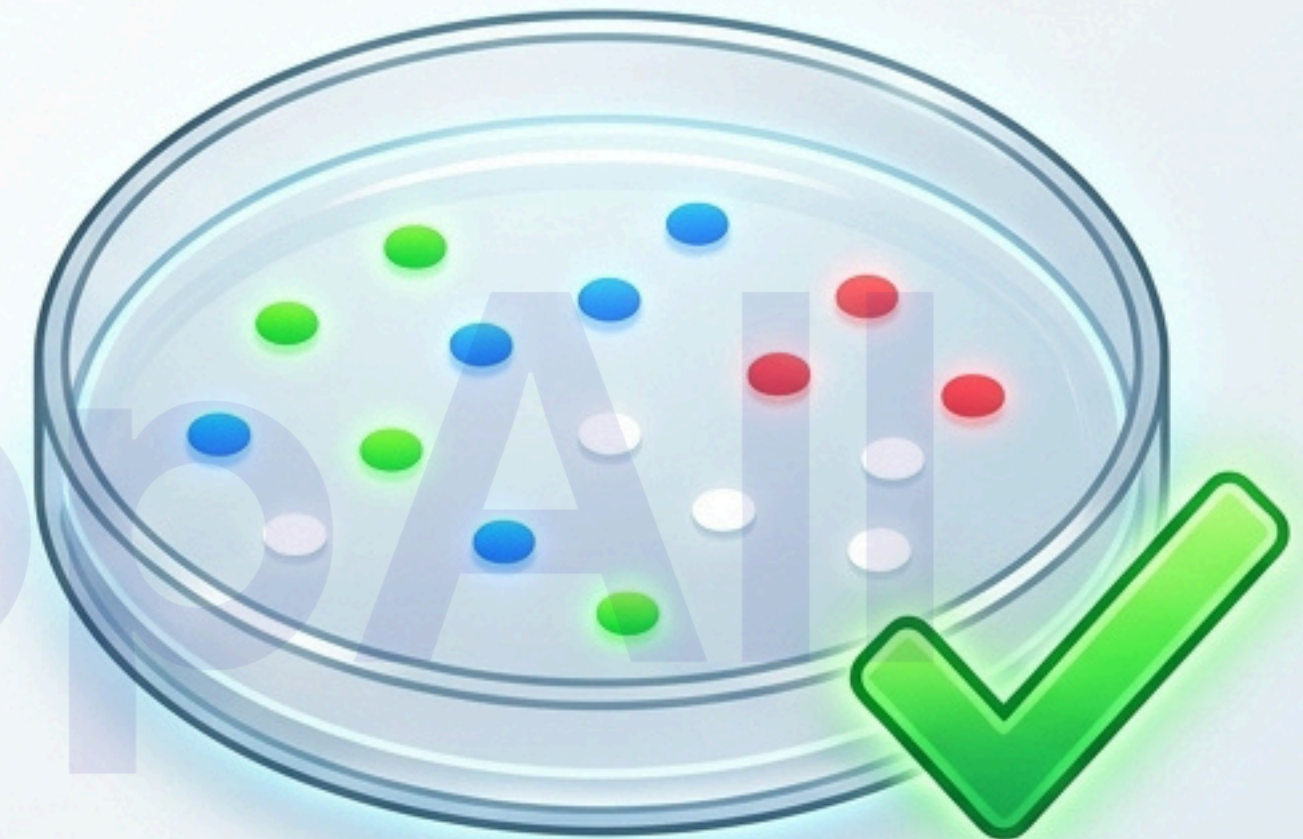
The Problem with Antibiotic Selection

The Old Way



Cumbersome Procedure:
Identifying recombinants requires simultaneous plating on two different antibiotic mediums just to see which colonies survive or die.

The Goal



A single-plate method to visually differentiate recombinants from non-recombinants instantly.



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

$$E=mc^2$$



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Practice Now



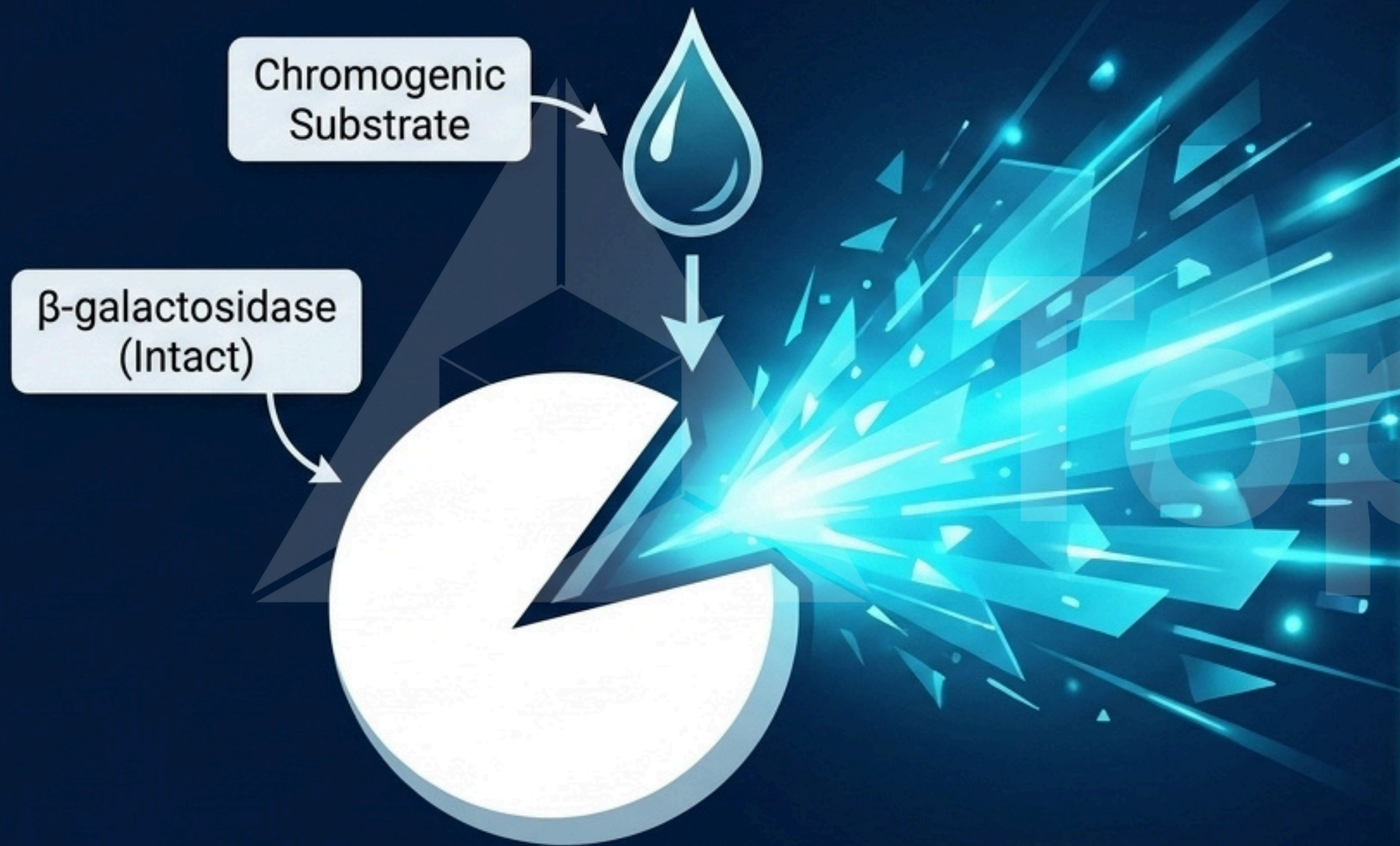
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The Solution: β -galactosidase as a Marker



The Alternative

Use a selectable marker that triggers a visible color change rather than relying on cell death.

The Reaction

When intact, the β -galactosidase enzyme reacts with a specific chromogenic substrate in the agar to produce a distinct, bright blue color.

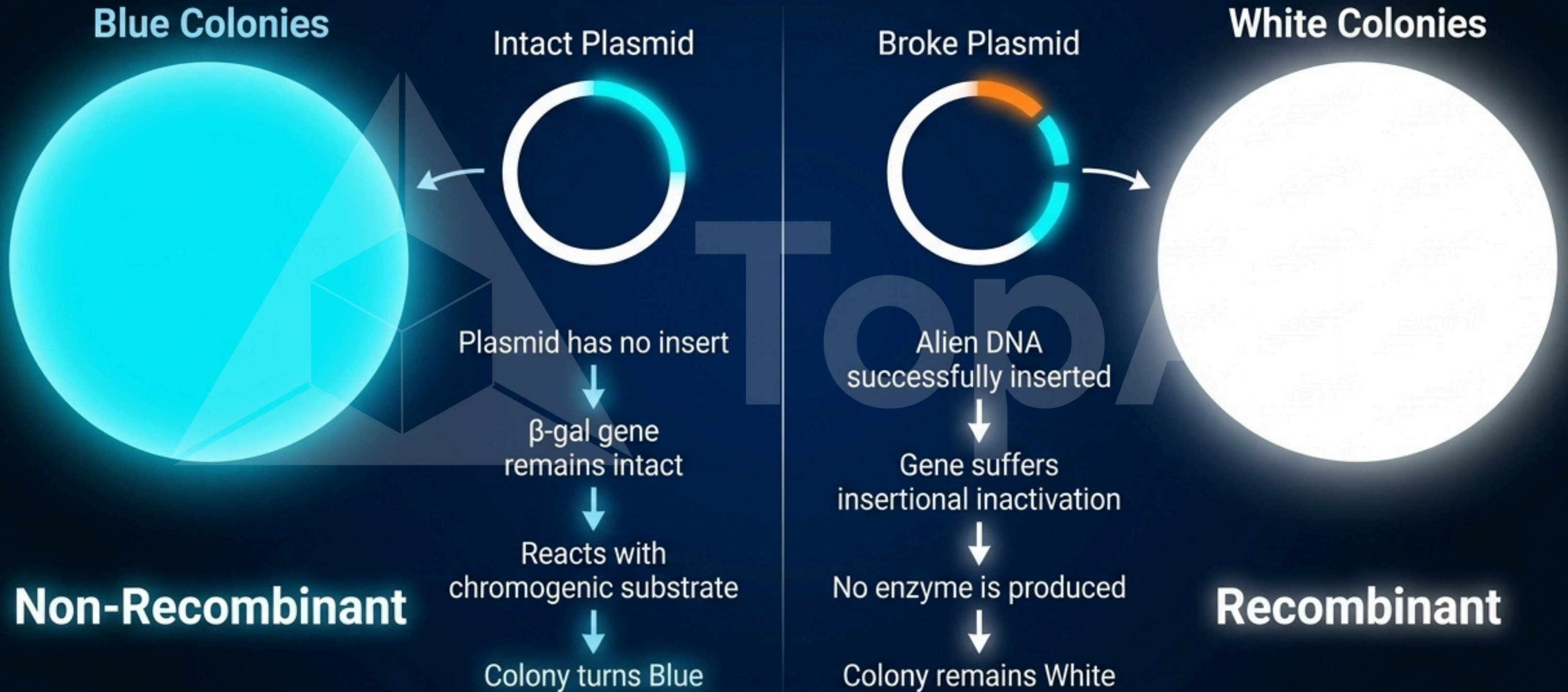
The Mechanism: Insertional Inactivation



The Strategy: Recombinant DNA is targeted directly within the coding sequence of the enzyme.

The Result: This disrupts the gene sequence—a process known as insertional inactivation.

Blue or White? Reading the Results





You've Learned the Theory.

Now Let's Test It.

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