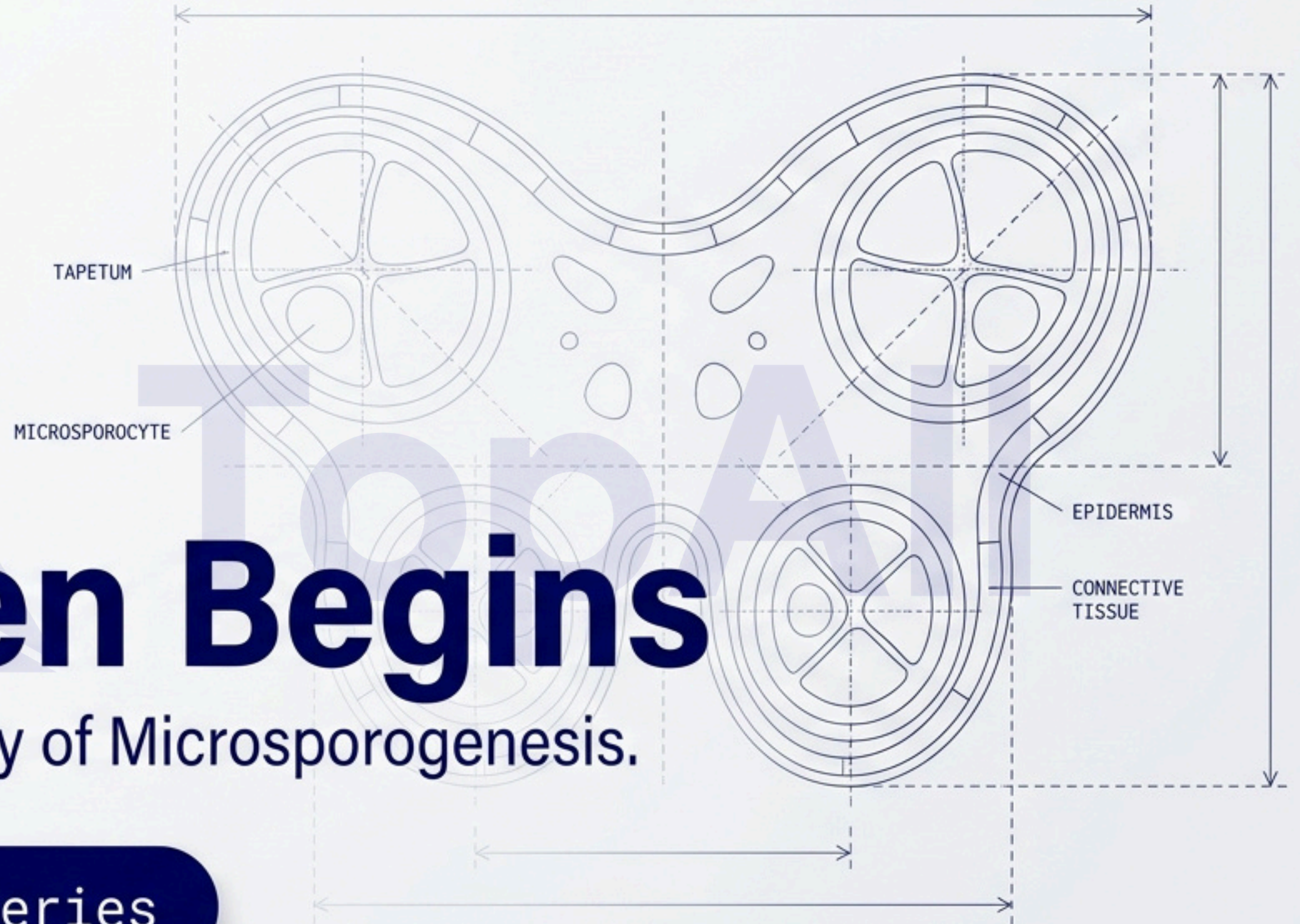


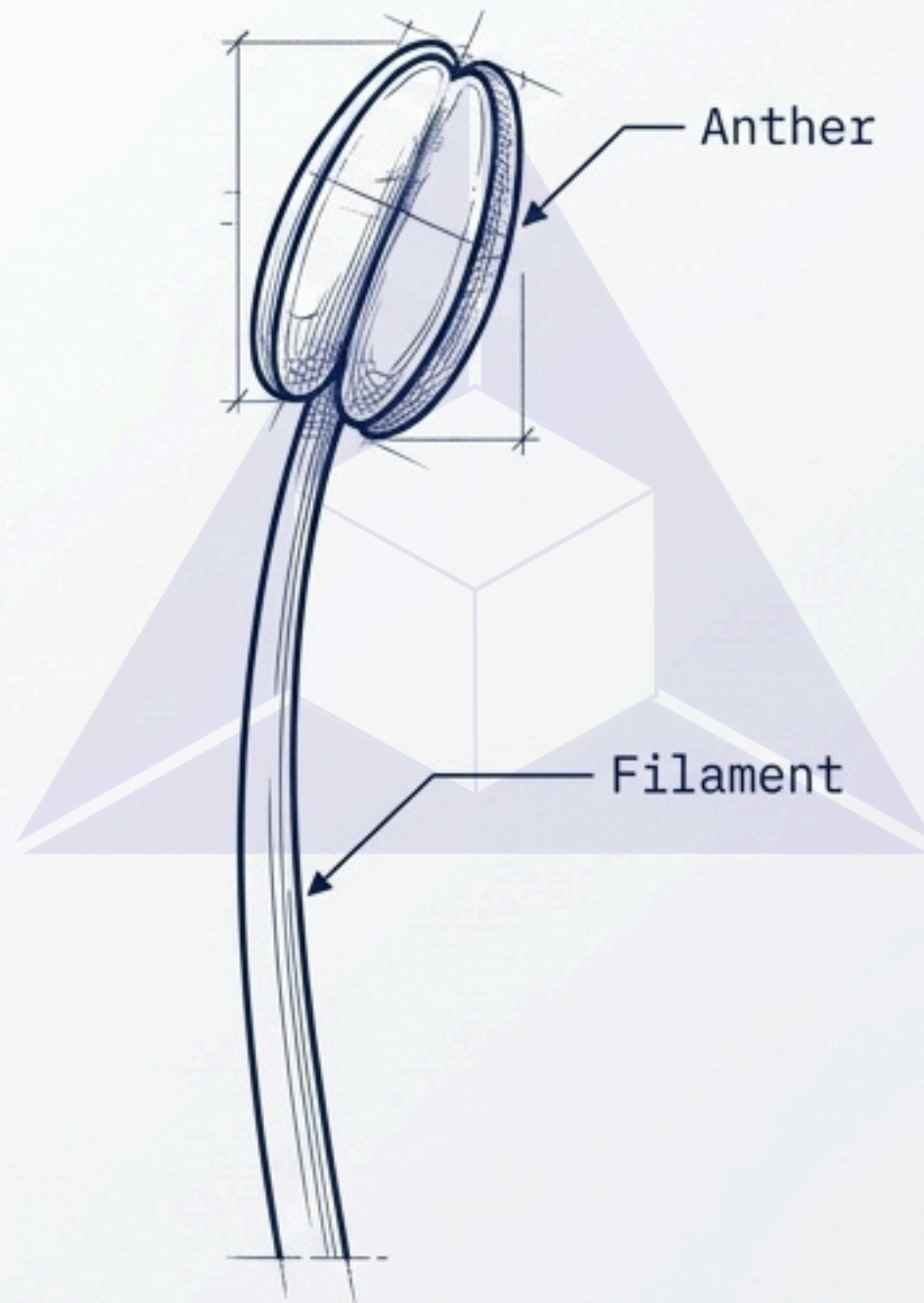
How Pollen Begins

The Anatomy and Physiology of Microsporogenesis.

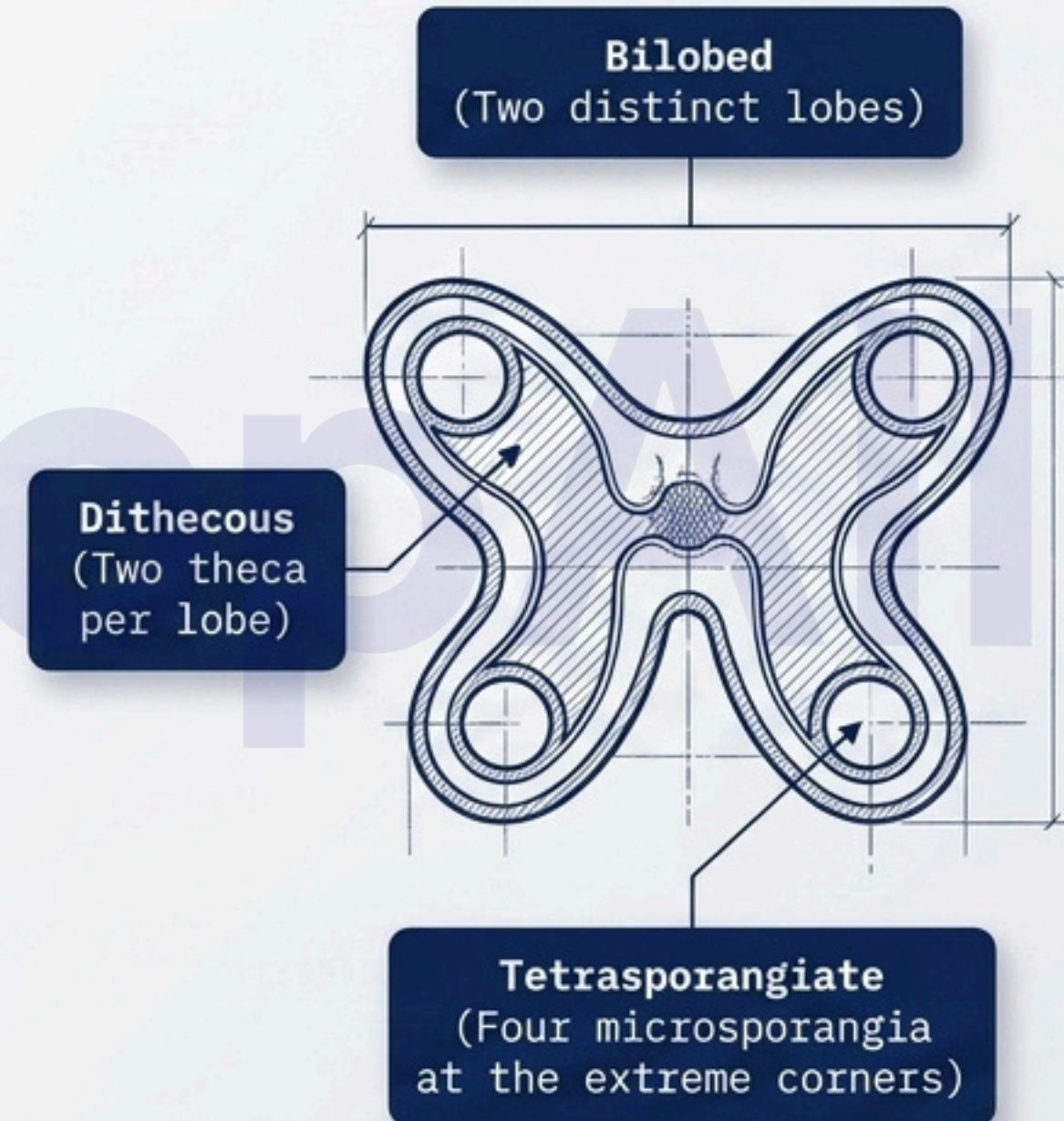
Biological Blueprint Series



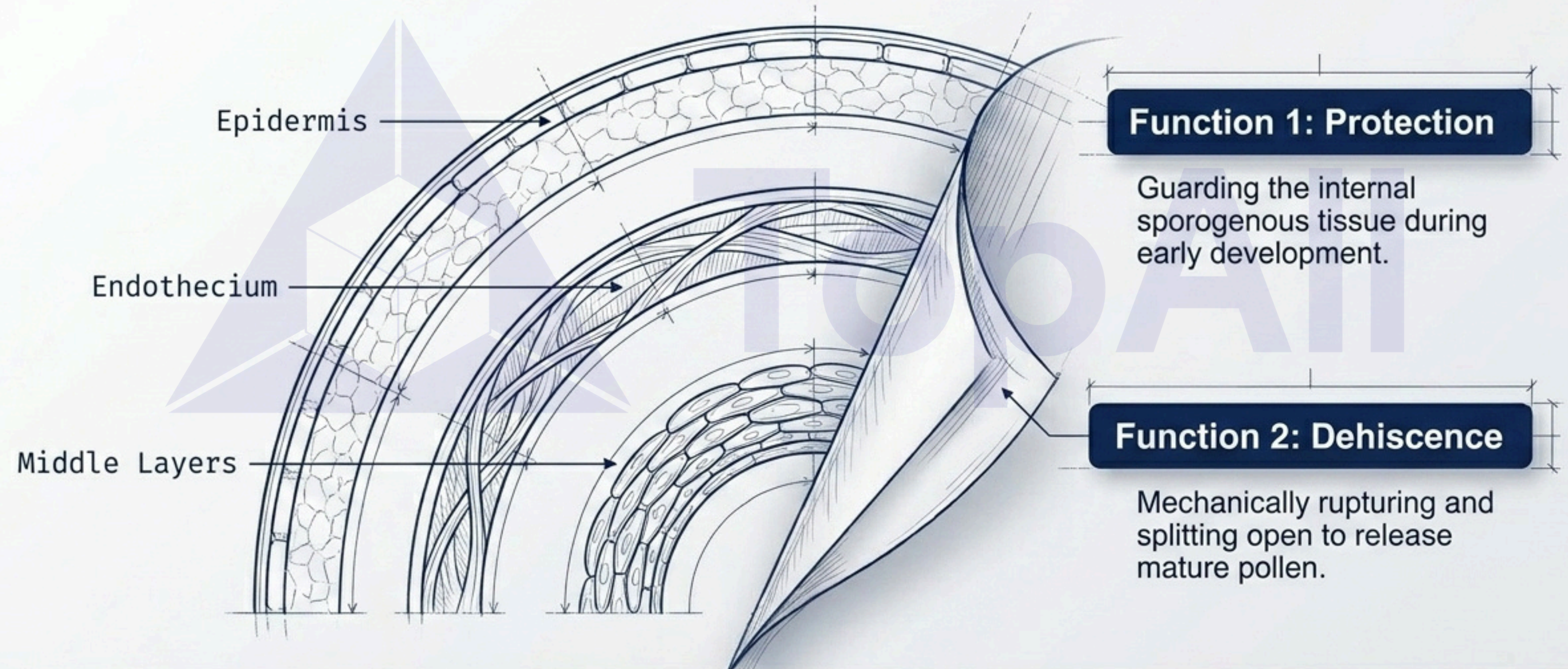
The Macro



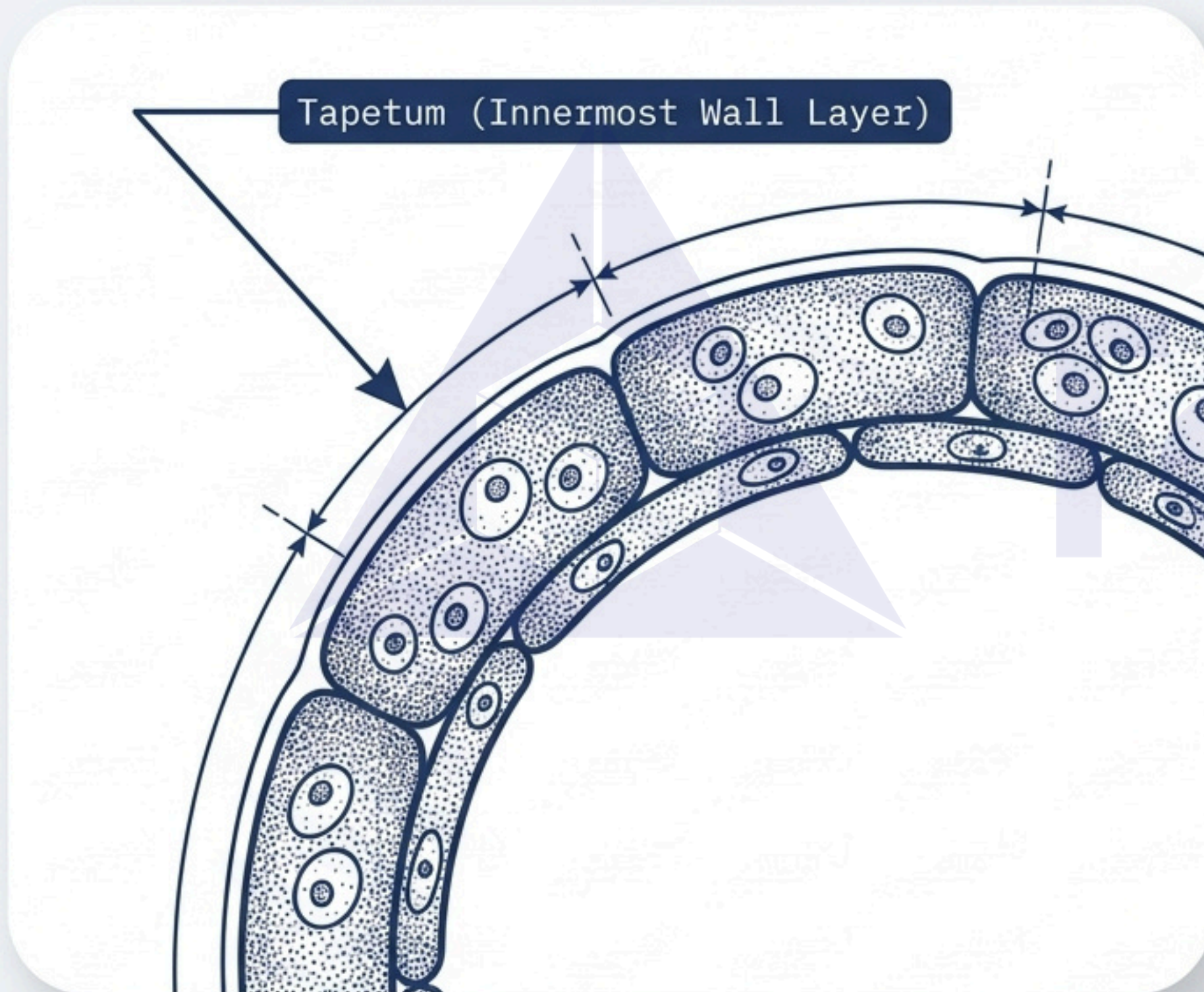
The Cross-Section



The Protective Shields



The Tapetum: The Inner Nurse



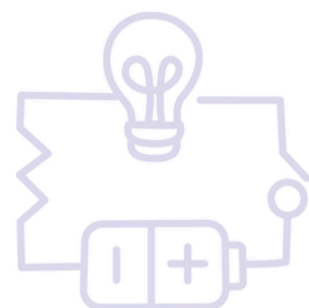
High Metabolic Demand

The tapetum nourishes the developing pollen grains. To support this massive energy and resource requirement, tapetal cells typically possess remarkably dense cytoplasm and are characteristically multi-nucleate.



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

$$E=mc^2$$



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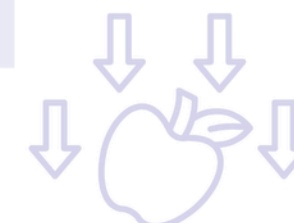
Practice Now



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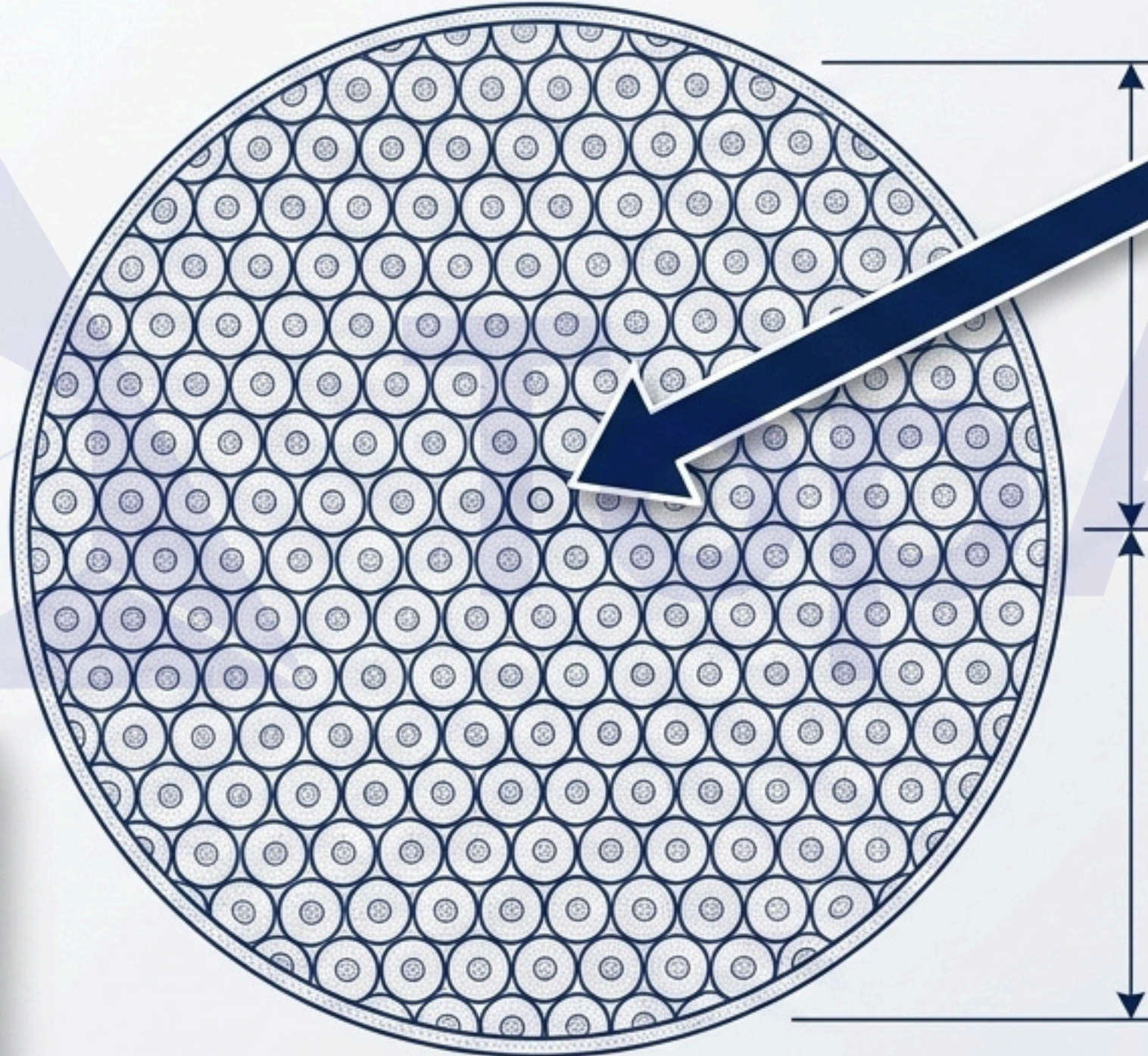
Key Highlights

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- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
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- » Track Your Performance Smarter



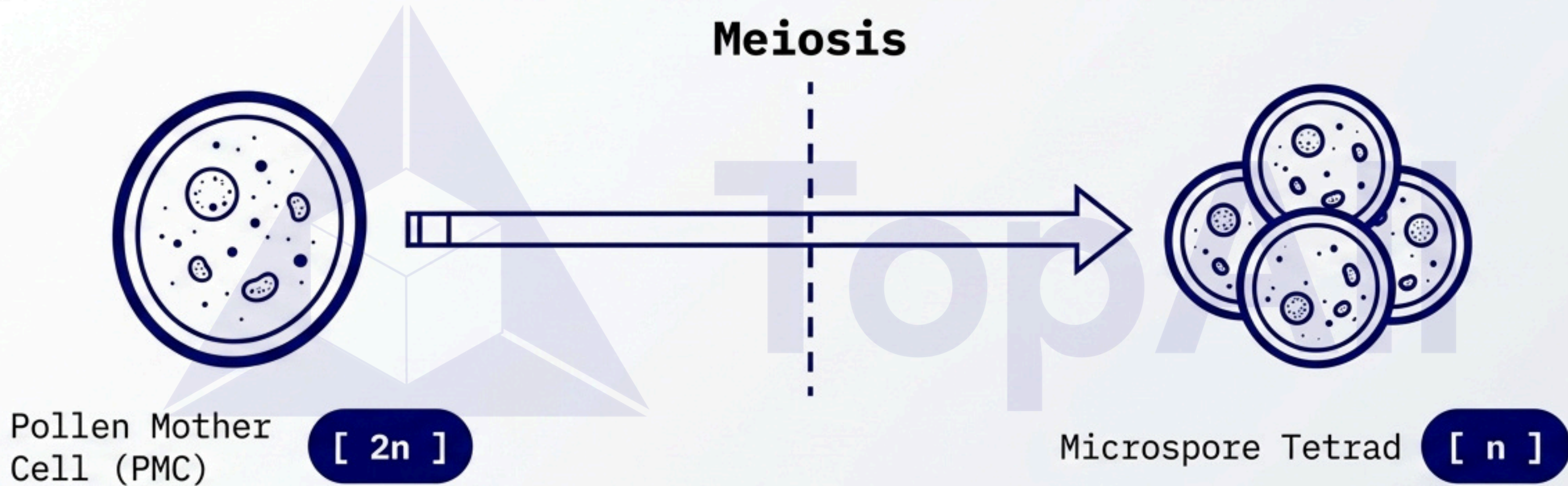
Sporogenous Tissue: The Central Core

When the anther is young, compactly arranged homogenous cells occupy the exact center of each microsporangium.



Every single cell in this core is a potential Pollen Mother Cell (PMC) capable of undergoing meiosis and giving rise to a microspore tetrad.

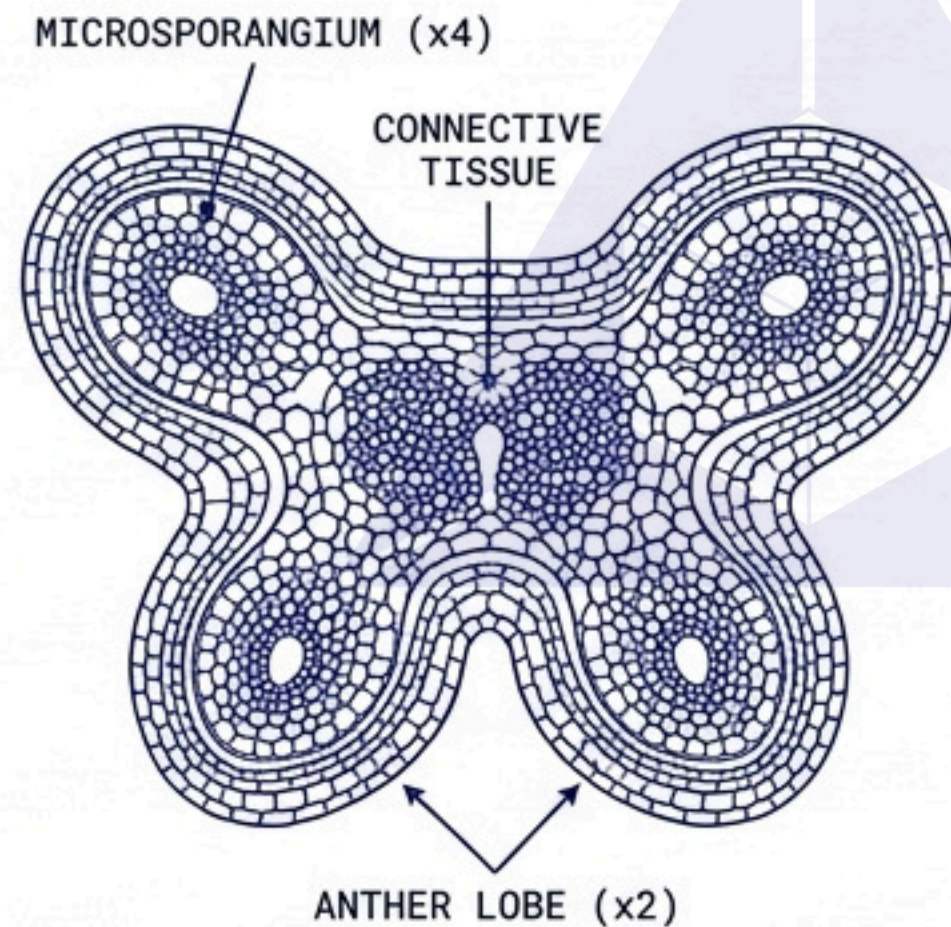
Microsporogenesis: The Mechanism



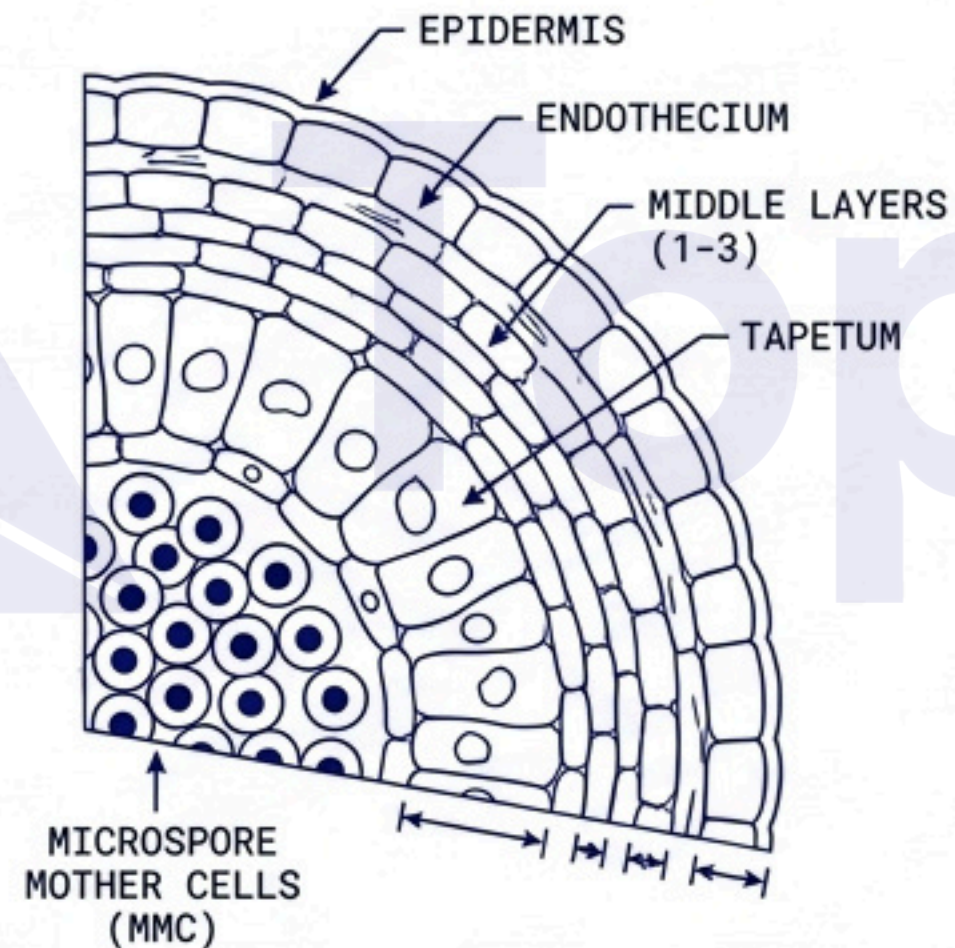
As the anther matures and dehydrates, the microspores dissociate from each other, individually developing into thousands of independent pollen grains.

The Complete Biological Blueprint

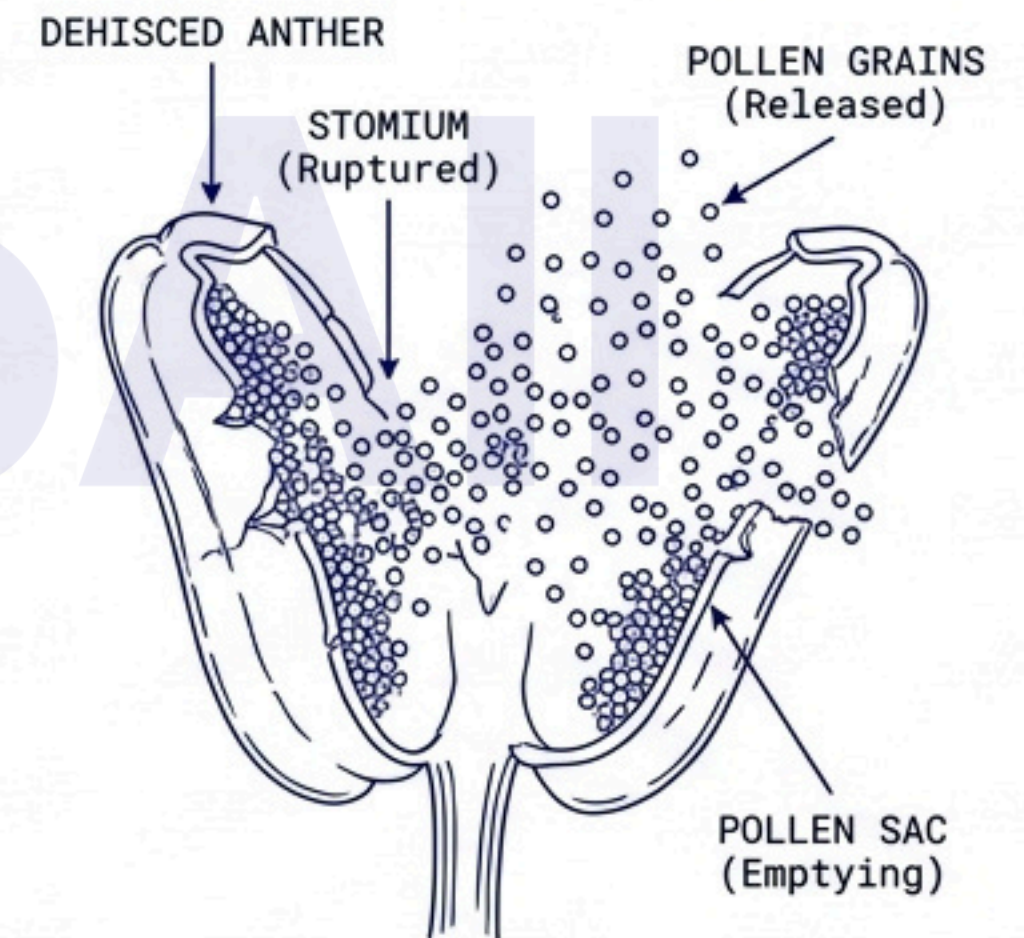
A Macro View (Young)



B Micro Detail (Wall Layers)



C Chronological (Mature & Dehiscent)



The Ultimate Synthesis

The microsporangium operates as a highly specialized biological factory. Its outer structural walls mechanically protect and eventually release the payload, while the innermost tapetum provides critical nourishment. Together, they sustain the central sporogenous tissue until meiosis transforms diploid ($2n$) mother cells into the thousands of haploid (n) pollen grains required for plant continuity.

Anatomy → Protection & Nourishment

Physiology → Meiosis & Dissociation



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