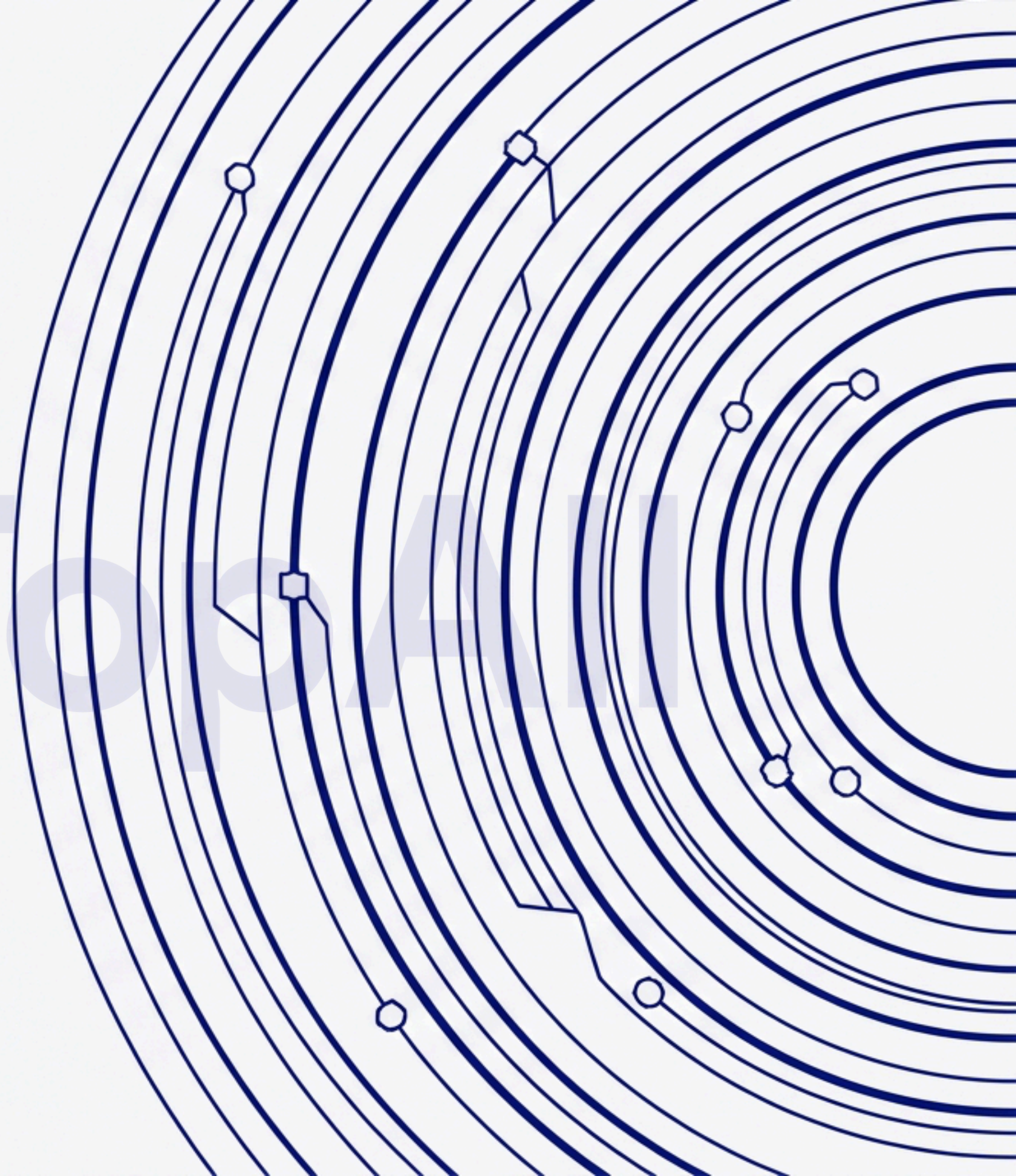
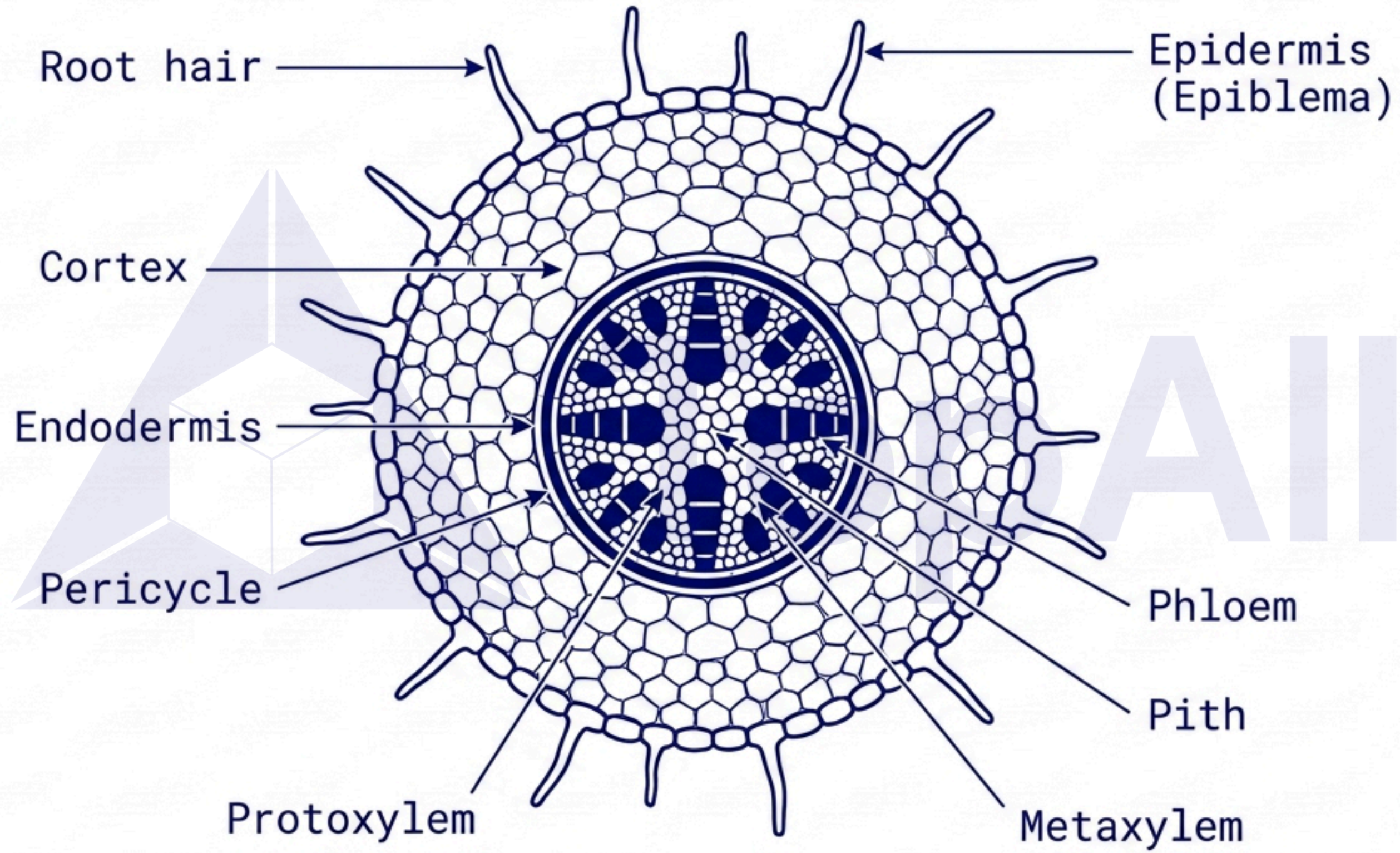




Inside a Sunflower Root

An anatomical blueprint of
dicotyledonous architecture.

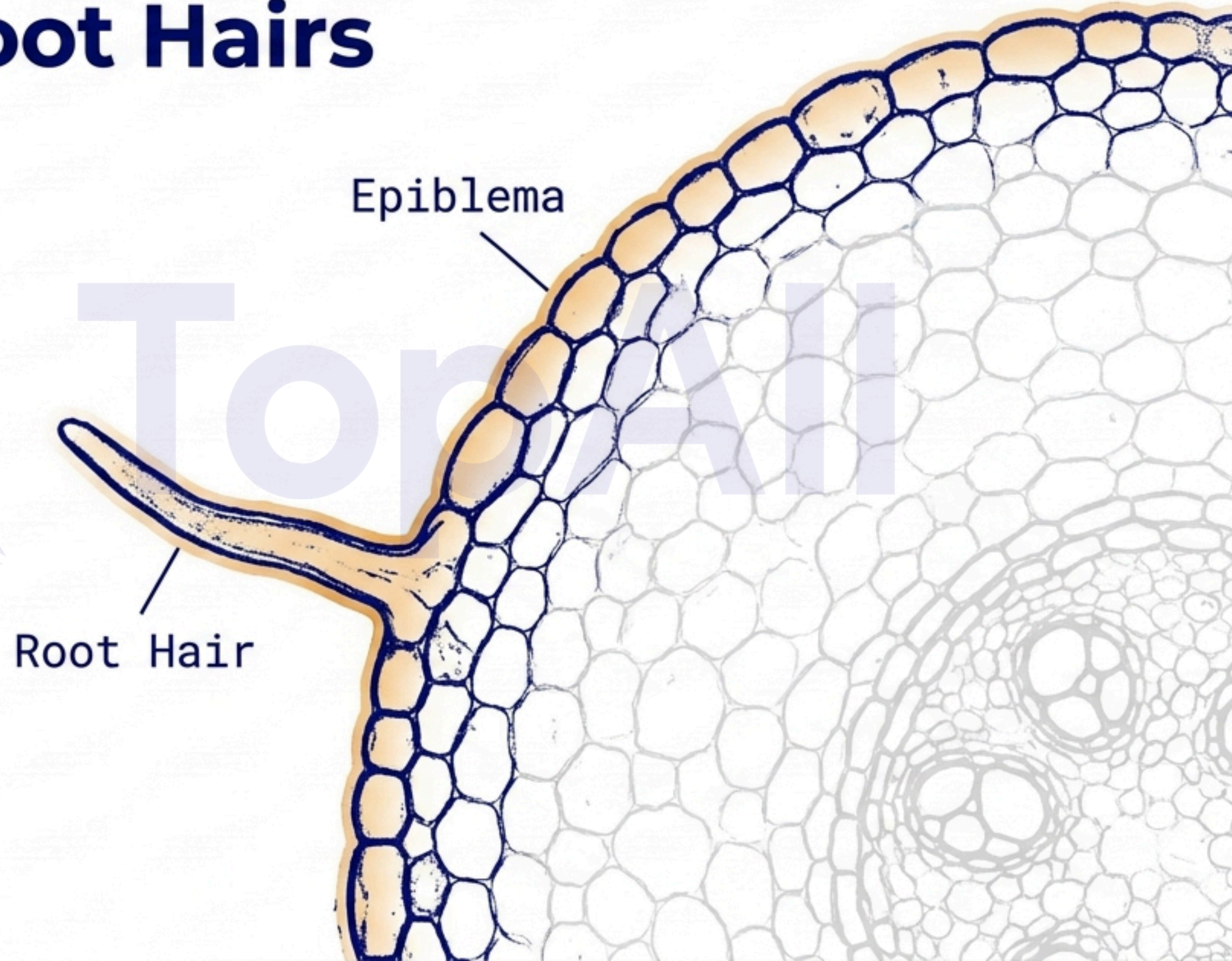




The Outer Boundary: Epiblema and Root Hairs

Epiblema Callout

Unicellular elongations designed to maximize surface area for absorbing water and minerals from the soil.





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



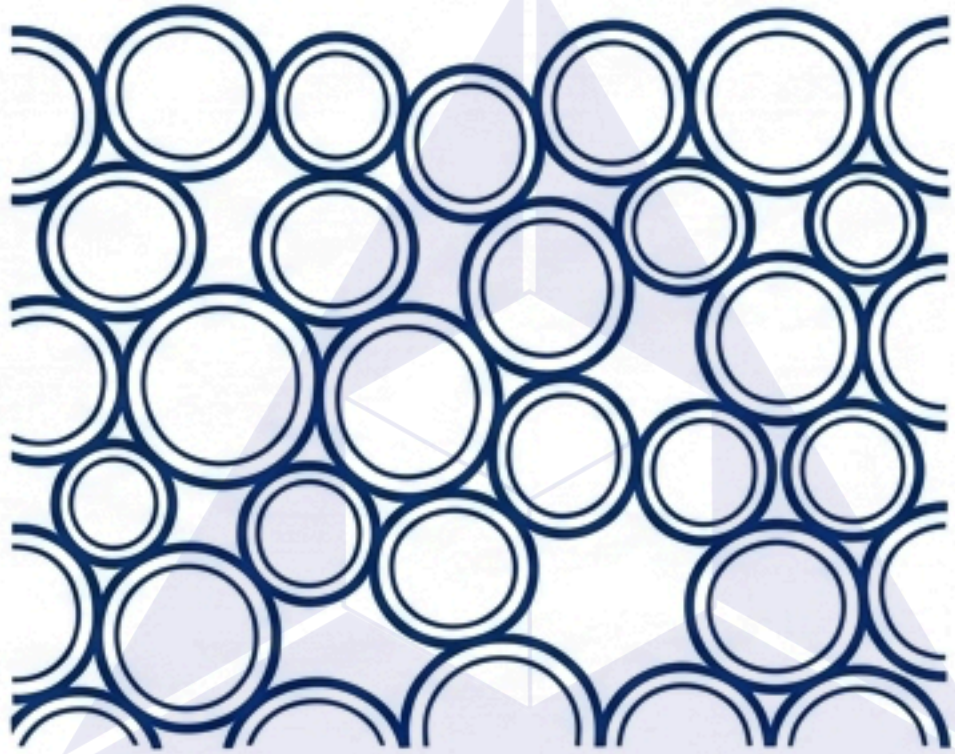
At prep.topall.app

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



Navigating the Ground Tissue: Cortex vs. Endodermis

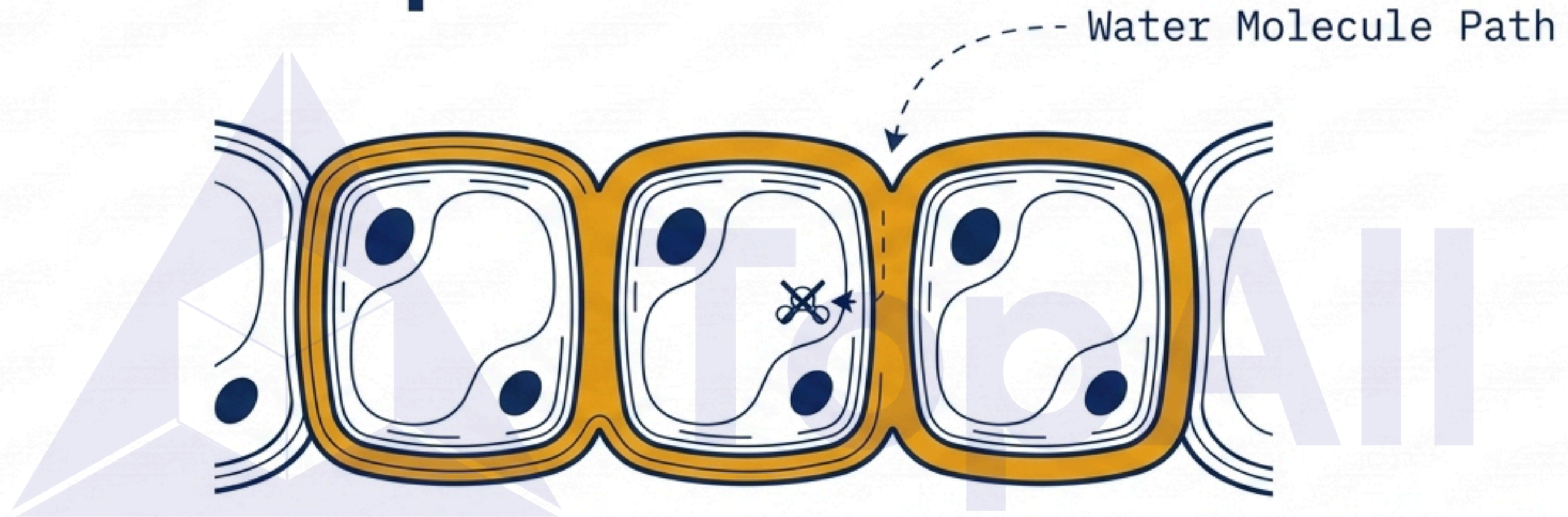


Cortex: Several layers of thin-walled parenchyma cells featuring highly conspicuous intercellular spaces.



Endodermis: The innermost cortical layer. A single layer of barrel-shaped cells with absolutely no intercellular spaces.

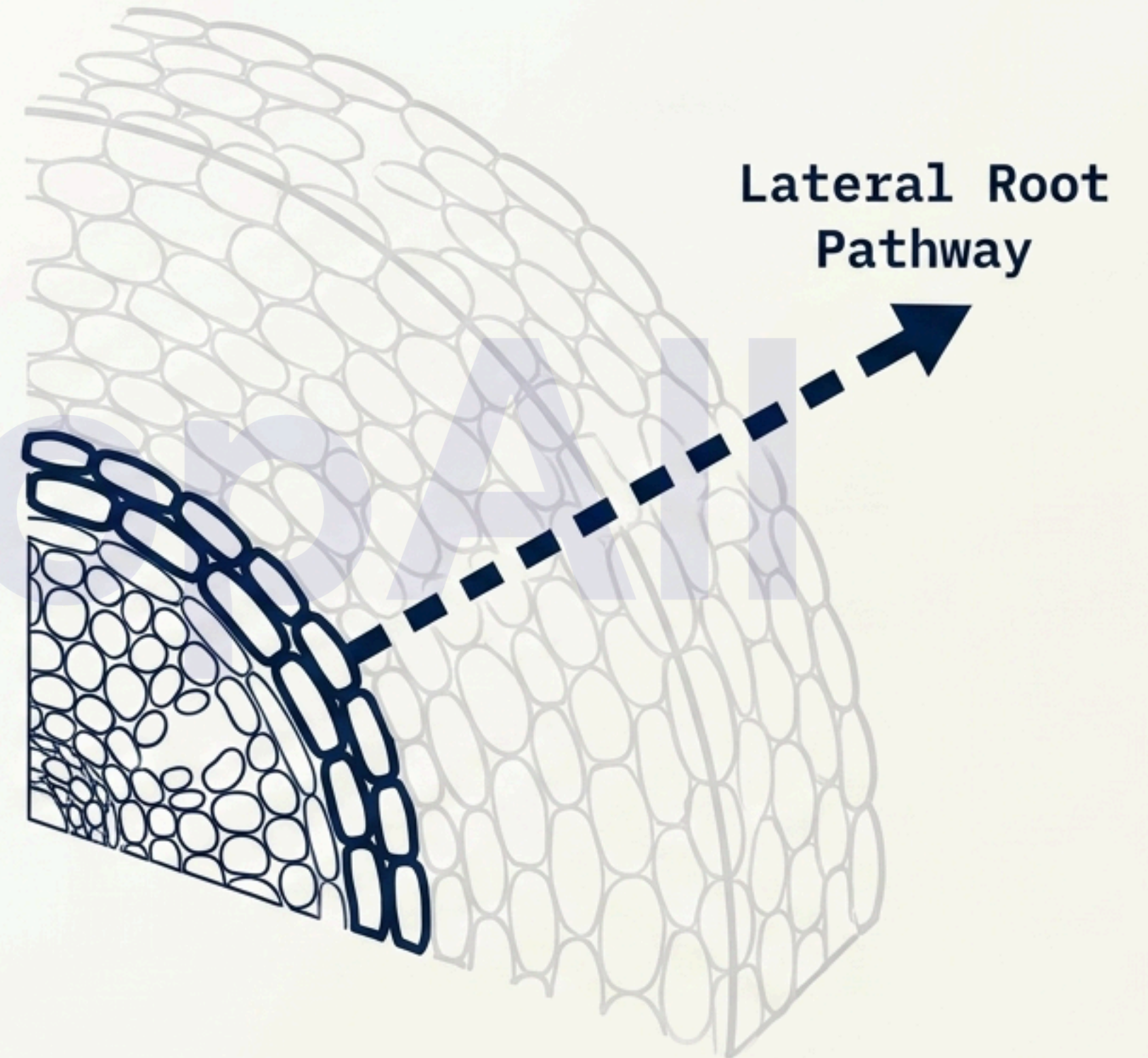
The Microscopic Water Filter: Casparian Strips



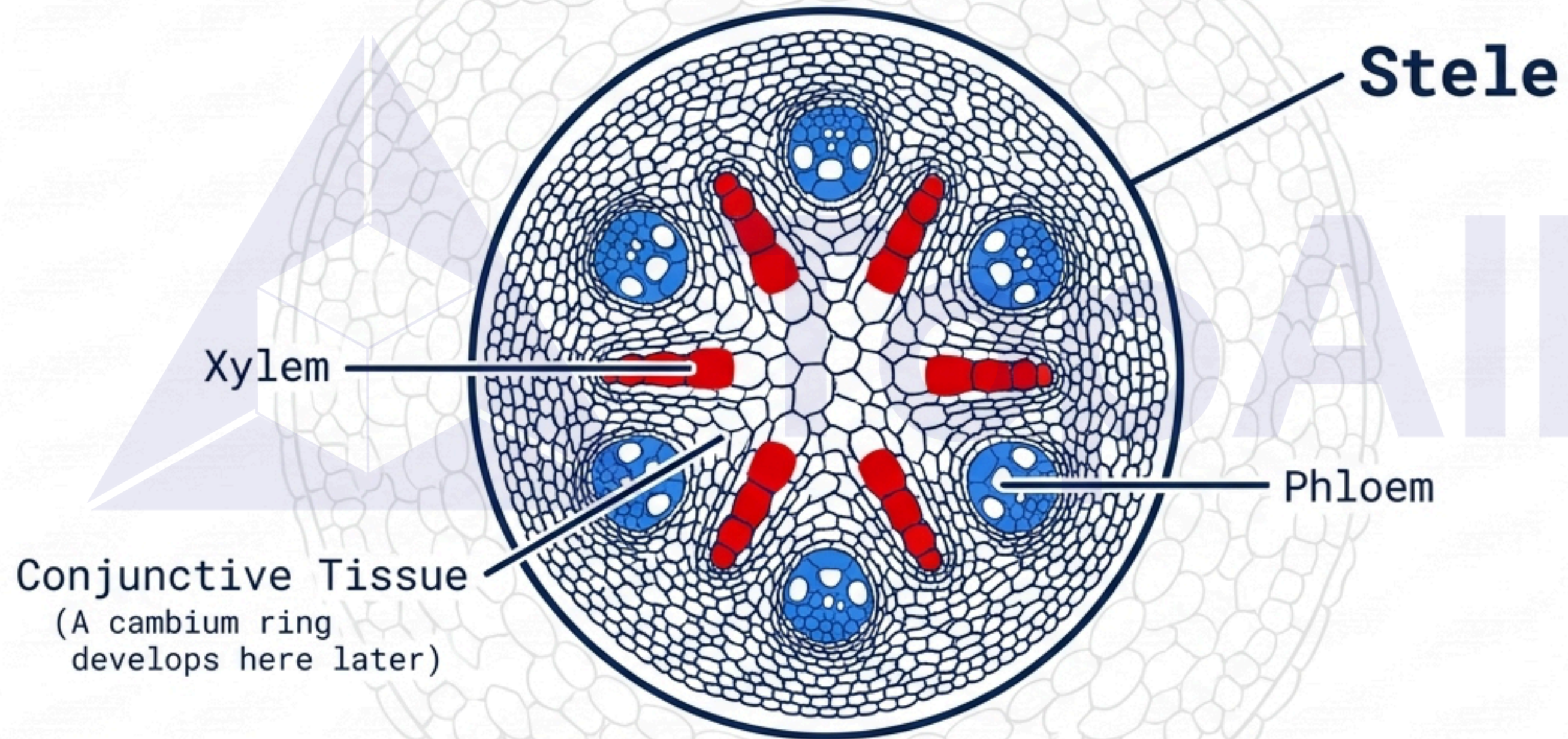
The deposition of 'suberin' on the tangential and radial walls creates a water-impermeable, waxy filter known as Casparian strips.

The Generative Ring: Pericycle

- 1.** Initiation of lateral roots.
- 2.** Formation of vascular cambium during secondary growth.



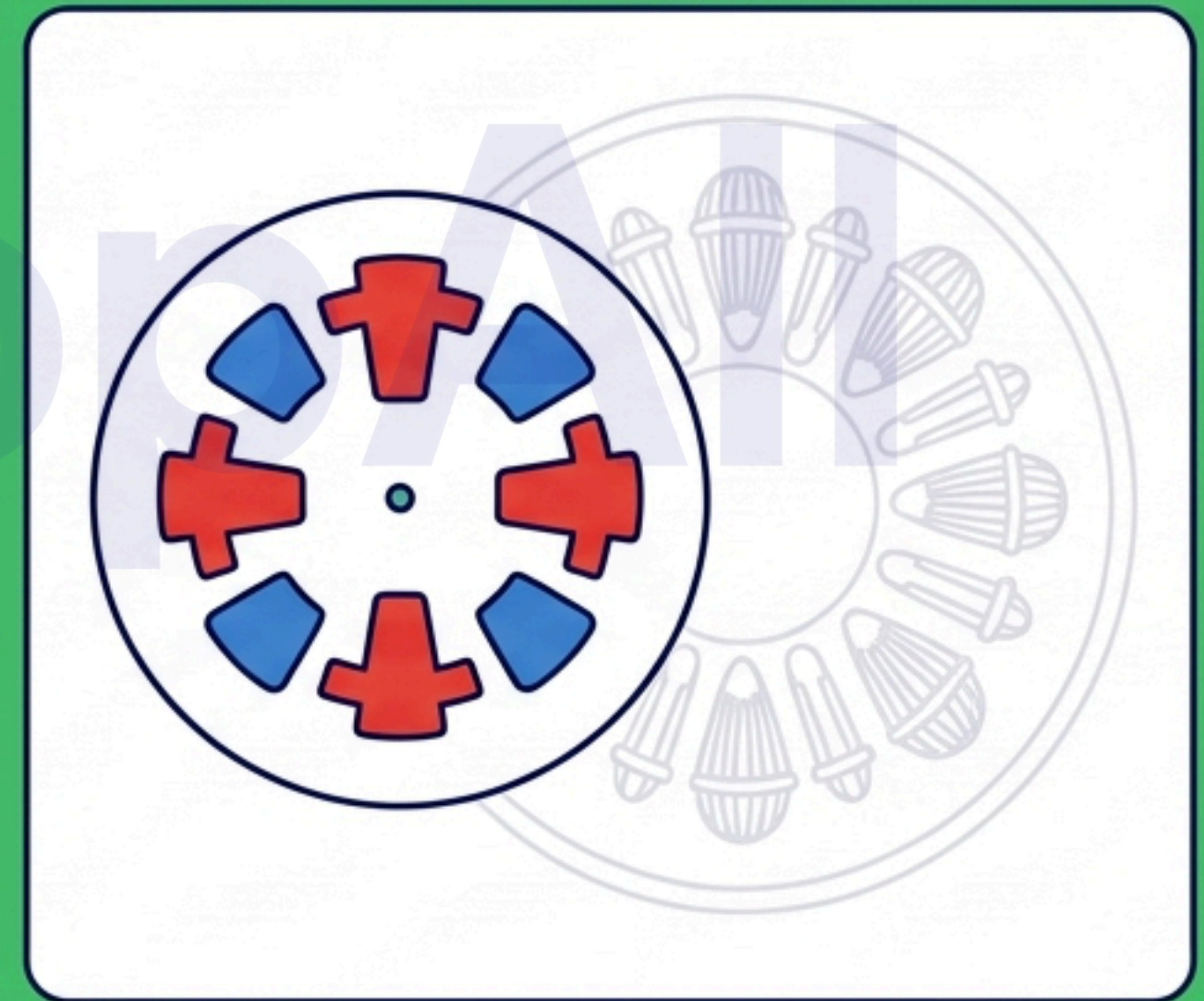
The Central Plumbing: Vascular Bundles and the Stele



Diagnostic Synthesis: Identifying a Dicot Root

The defining anatomical markers of a dicotyledonous root are:

1. **Fewer Xylem Patches:** Typically only two to four distinct xylem and phloem patches.
2. **Small Pith:** A central pith that is incredibly small or completely inconspicuous.





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