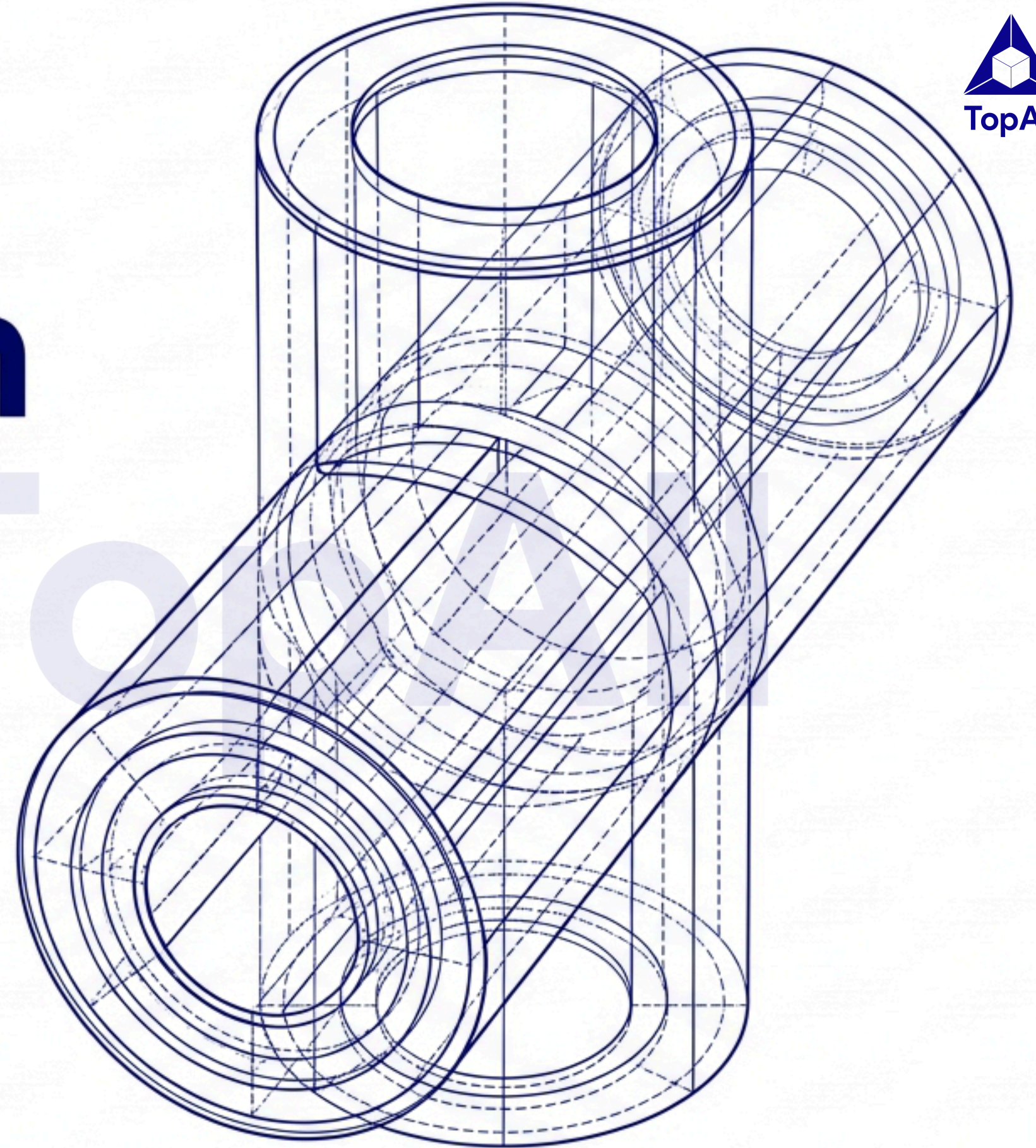


[ORGANELLE BRIEF]

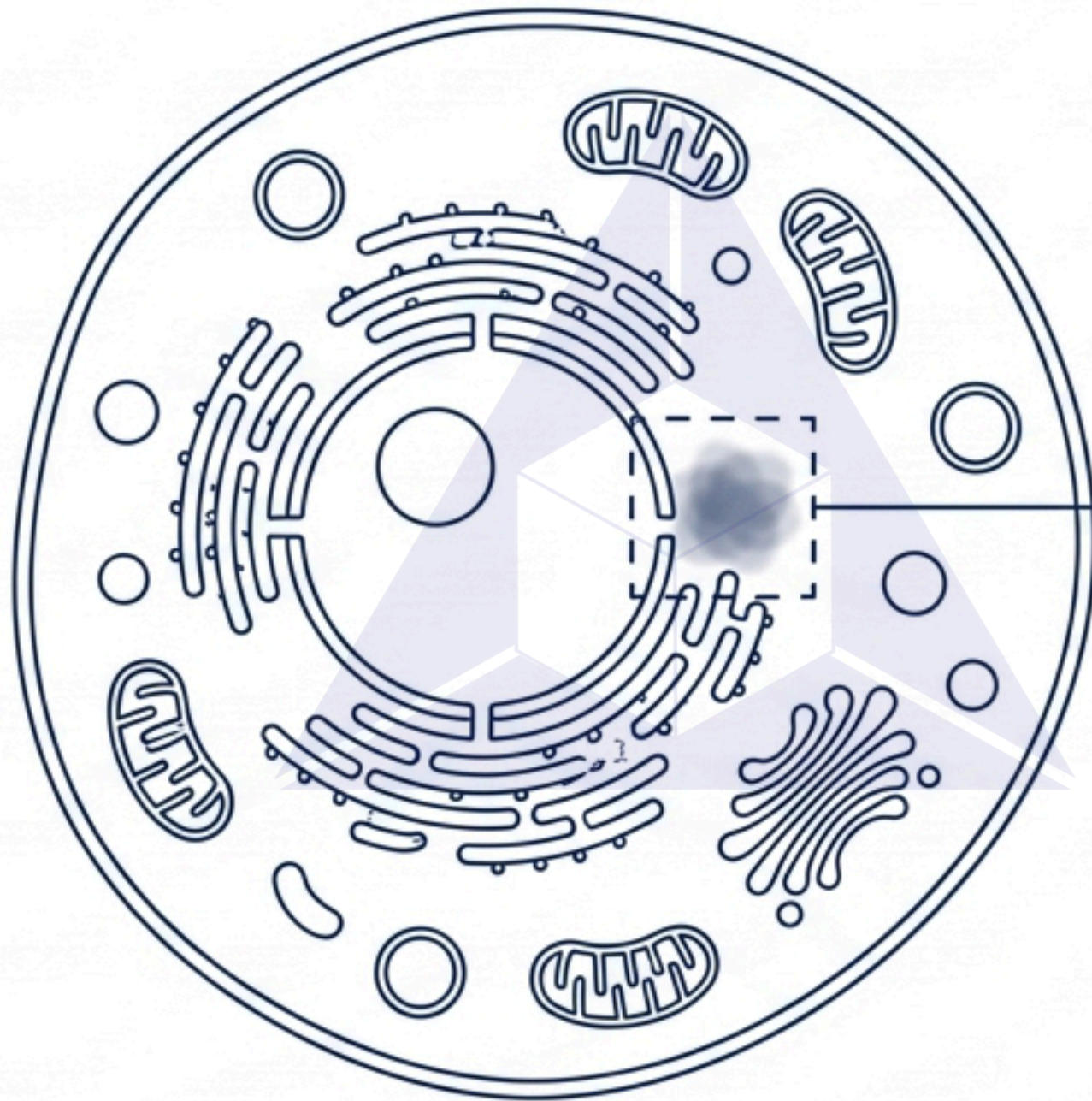
[ANIMAL CELLS]

Cell Division Organisers

The Architecture and
Function of the
Centrosome & Centrioles



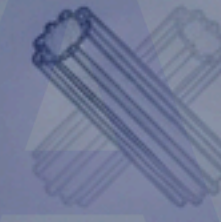
THE MACRO CONTEXT



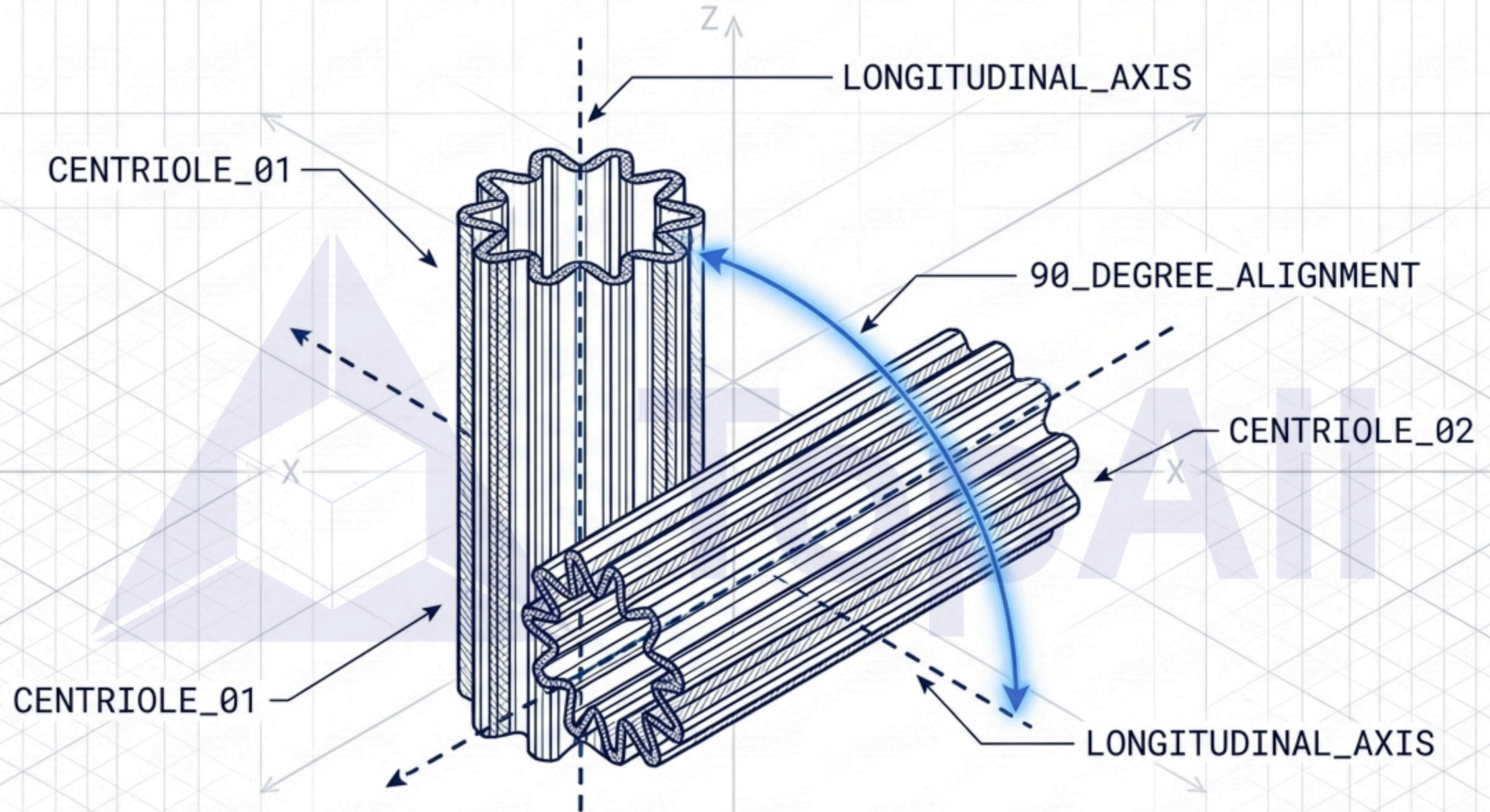
THE MICRO VIEW



PERICENTRIOLAR_MATERIAL



Crucial Distinction: Unlike mitochondria or the nucleus, the centrosome is a strictly **non-membrane bound** organelle.



Both centrioles within a centrosome lie exactly perpendicular to each other, establishing a precise spatial orientation for cellular scaffolding.



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

$$E=mc^2$$



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Practice Now

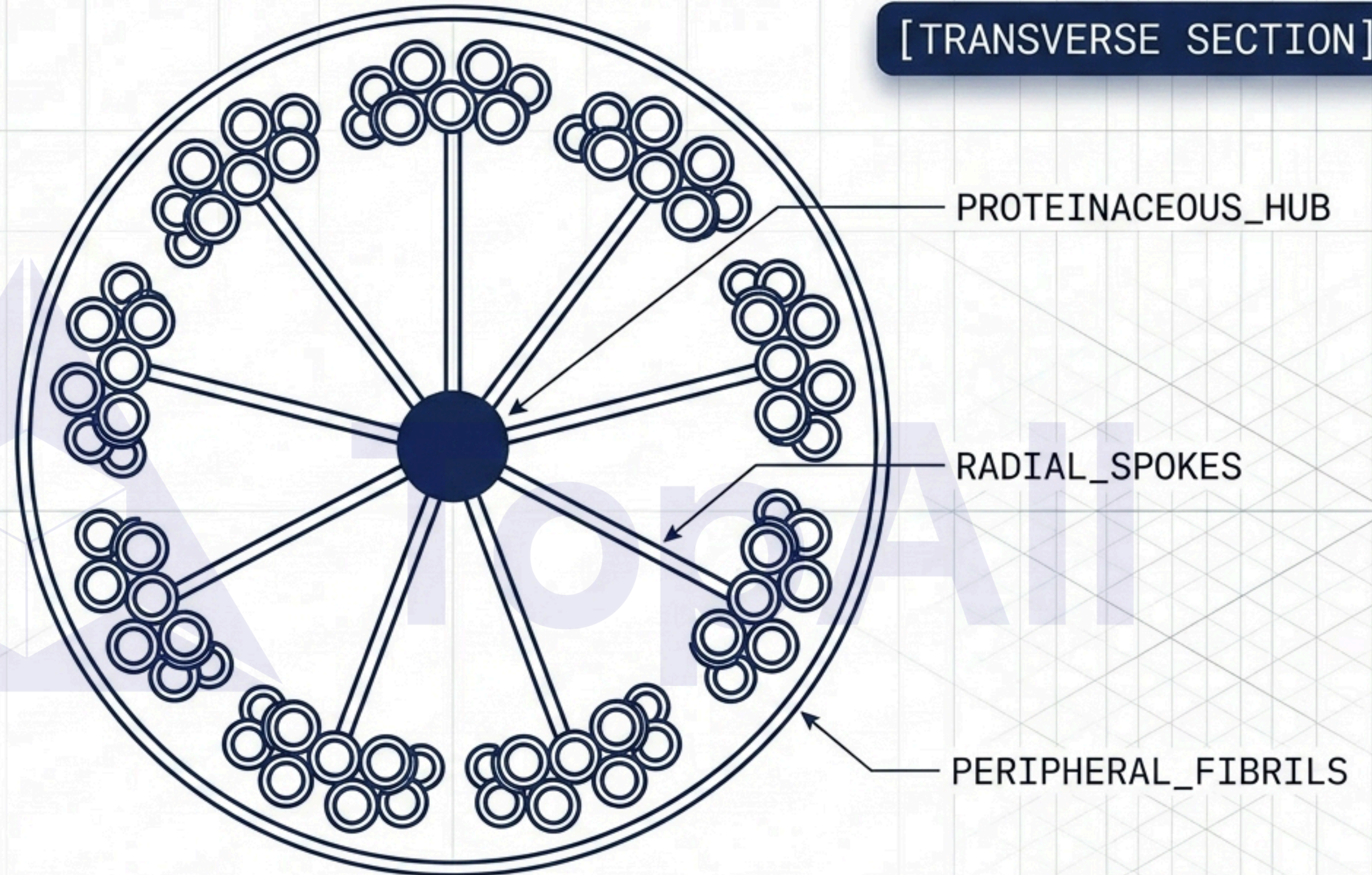


At prep.topall.app

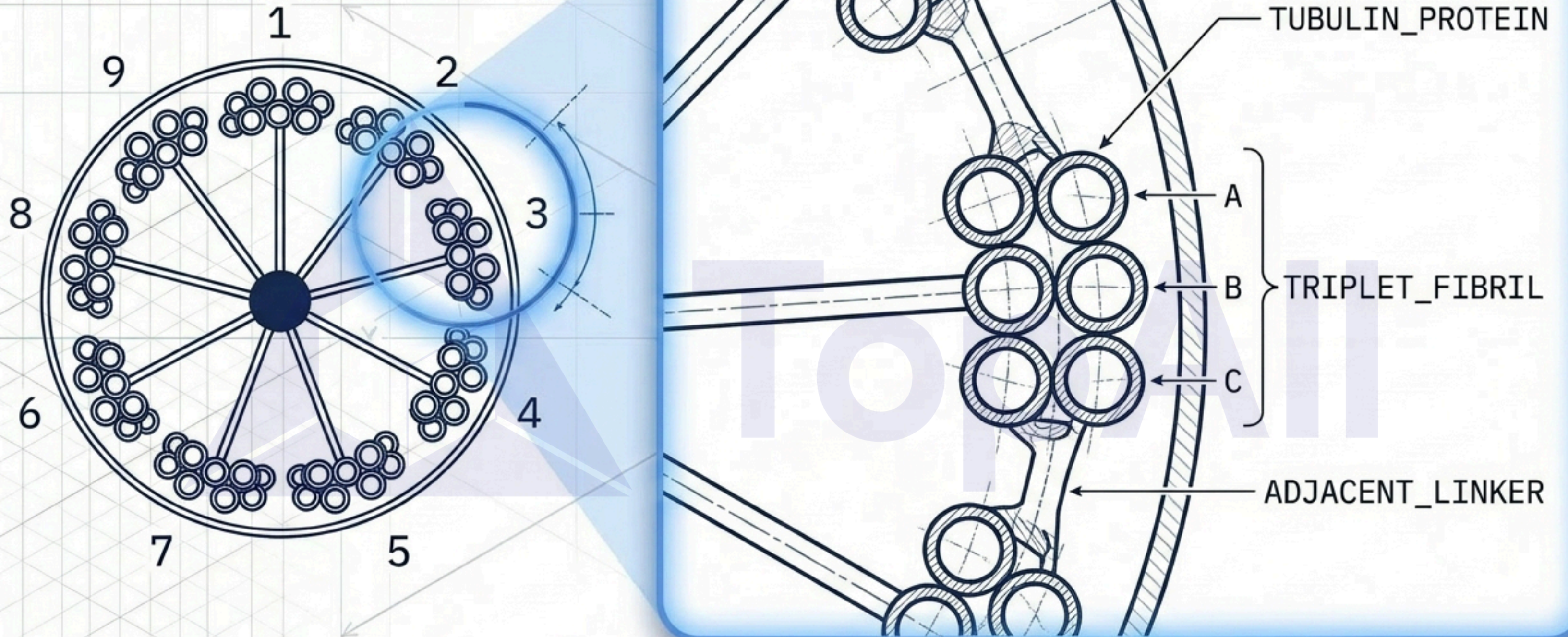
Key Highlights

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The internal architecture of a centriole follows a highly organized, radial "cartwheel" pattern, anchored by a central protein hub.

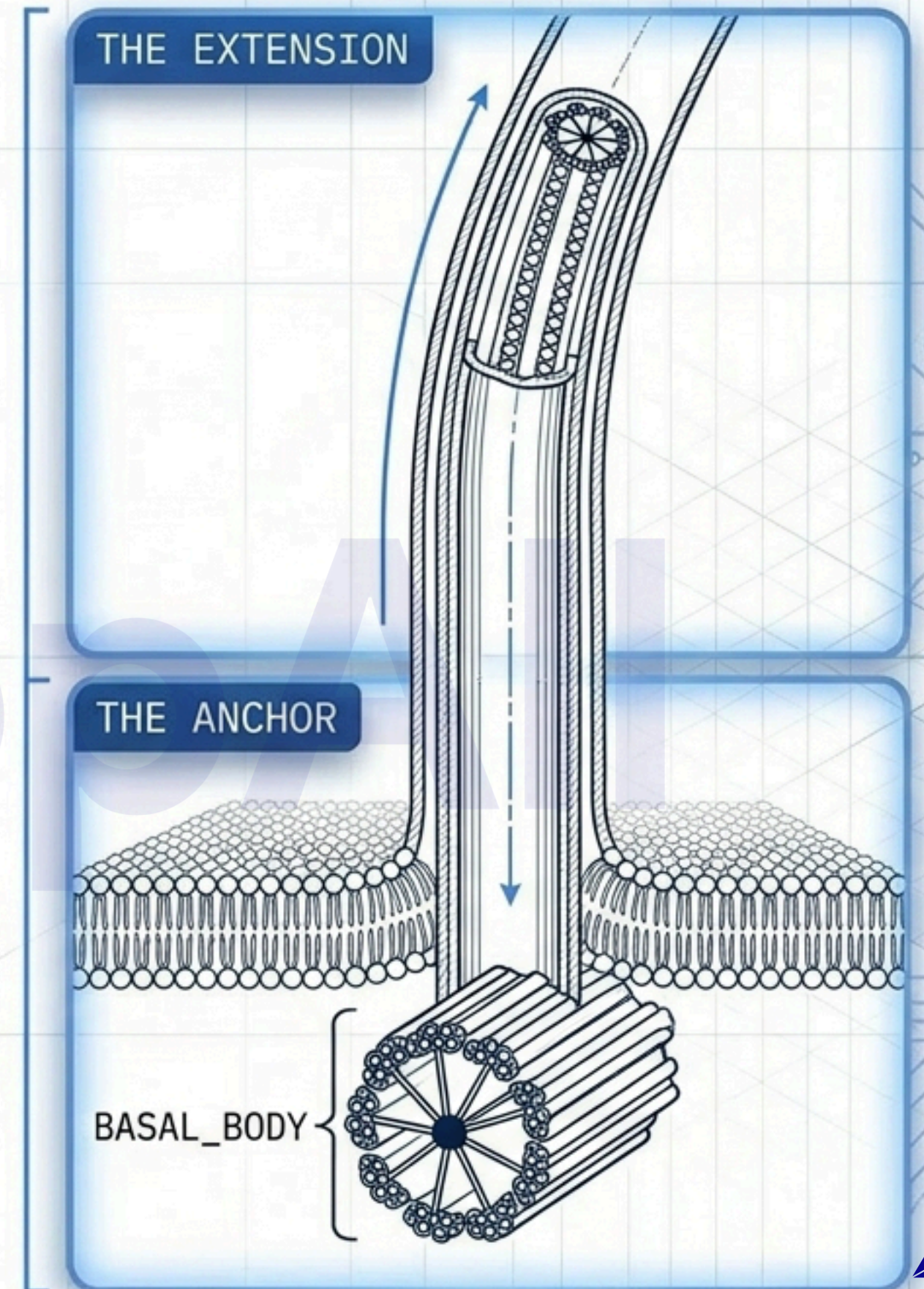


The perimeter consists of exactly nine evenly spaced peripheral fibrils. Each fibril is a linked triplet of tubulin microtubules.

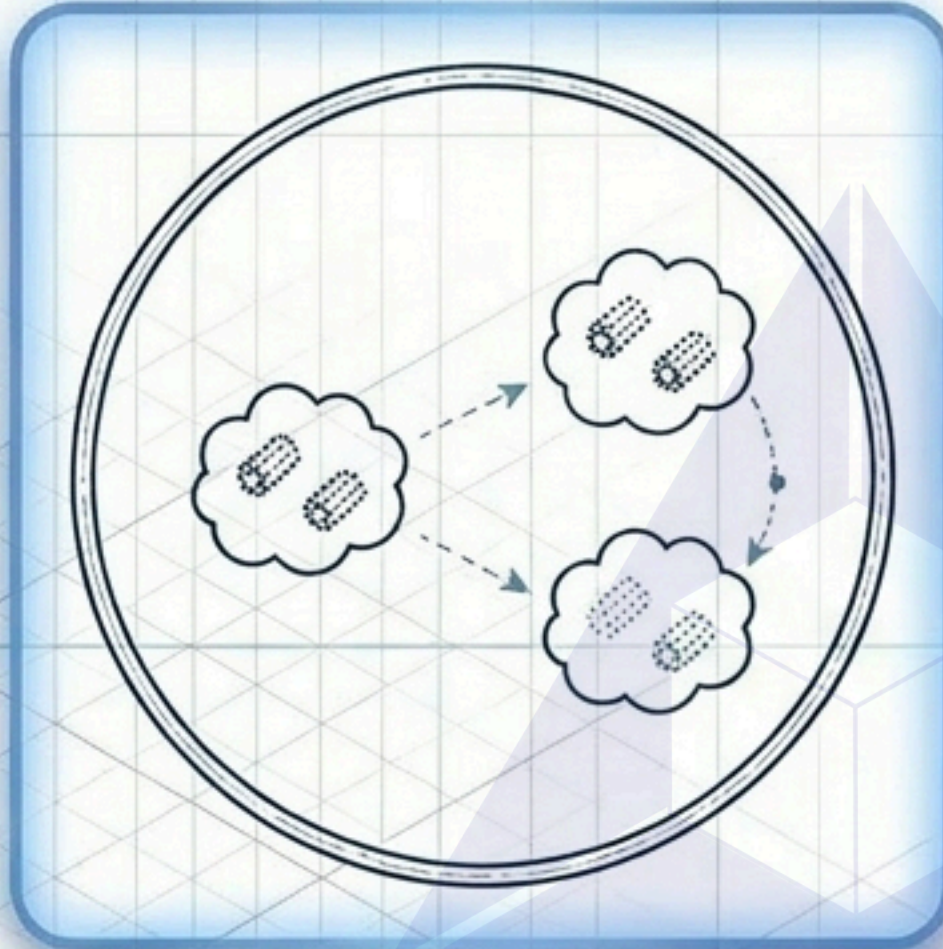
BASAL BODY FORMATION

The centriole acts as the direct structural foundation (basal body) from which cilia and flagella emerge.

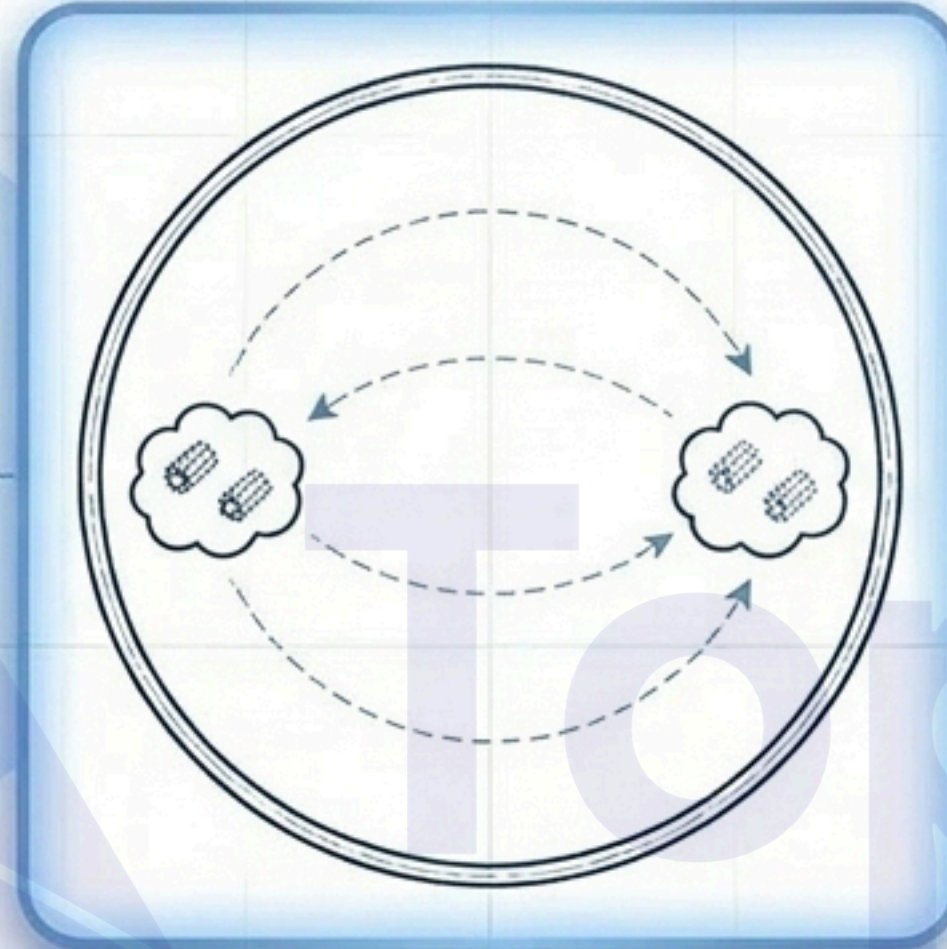
Key Takeaway: Translates internal geometric scaffolding into external cellular motility.



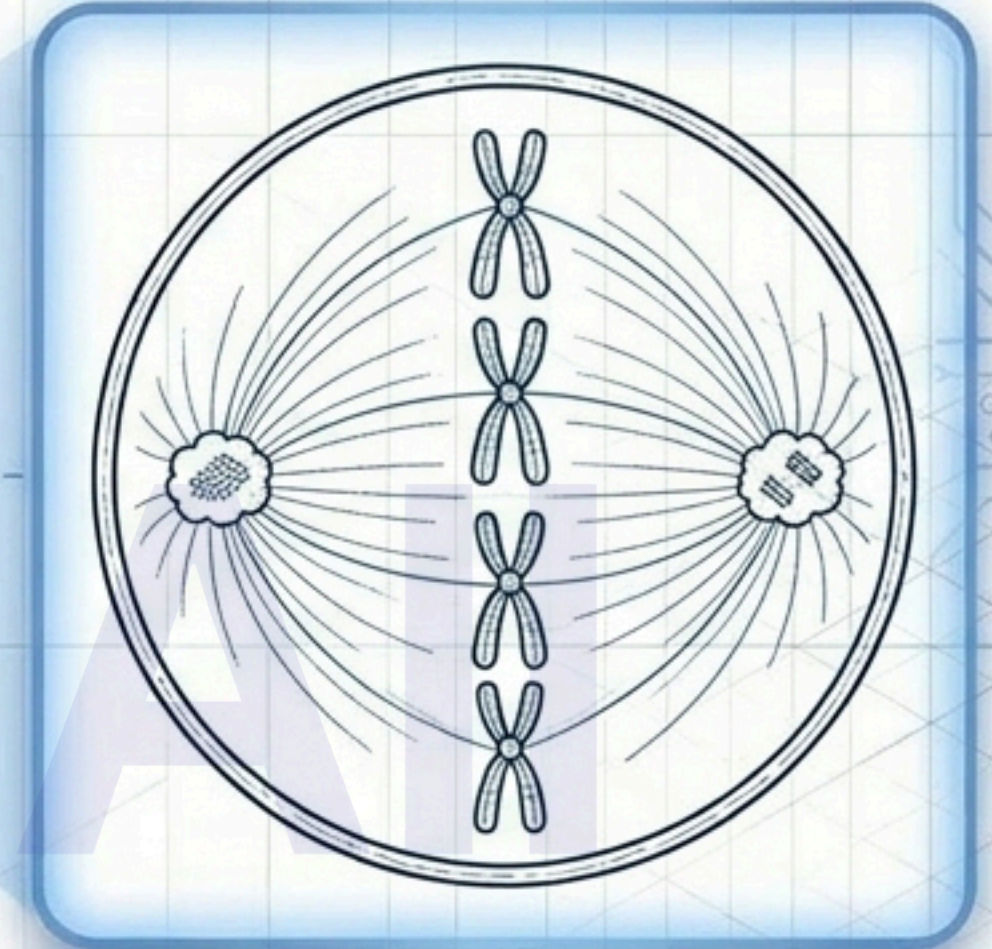
Spindle Apparatus Formation



1. Replication



2. Migration



3. Spindle Formation

Crucial Note: This specific centriole-driven division process occurs in animal cells, but is absent in almost all plant cells.

The Ultimate Organizers: Centrioles give rise to the spindle fibres that ensure accurate chromosomal distribution during cell division.



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Now Let's Test It.

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