

Centrosome

Occurrence → Animal cell → +ve
plant cells → -ve

(exception → plants with cilia/flagella)

- non membrane bound organelle.
 - ↳ ∴ Centrosome is in direct contact with cytoplasm
- Self duplicating → S phase
- No genetic material (DNA)
- Centrosome → diplosome + centrosphere
 - ↓
 - 2 perpendicular centrioles
 - ↳ K/a Kinoplasm
 - ↳ Semifluid around diplosome.

Centriole

- has cartwheel like appearance.
- Surrounded by amorphous substance called satellite / massule / MTG.
 - ↳ MT generator
- Functions of centriole
 - ↳ Basal granules of cilia, flagella are modified centriole
 - ↳ In animals SF formation is due to centriole (spindle fibre)

centriole \rightarrow 9x peripheral fibrils + hub protein

✓ made of tubulin

✓ present at centre

✓ Triplet MT

at proximal end

✓ parallel, evenly spaced

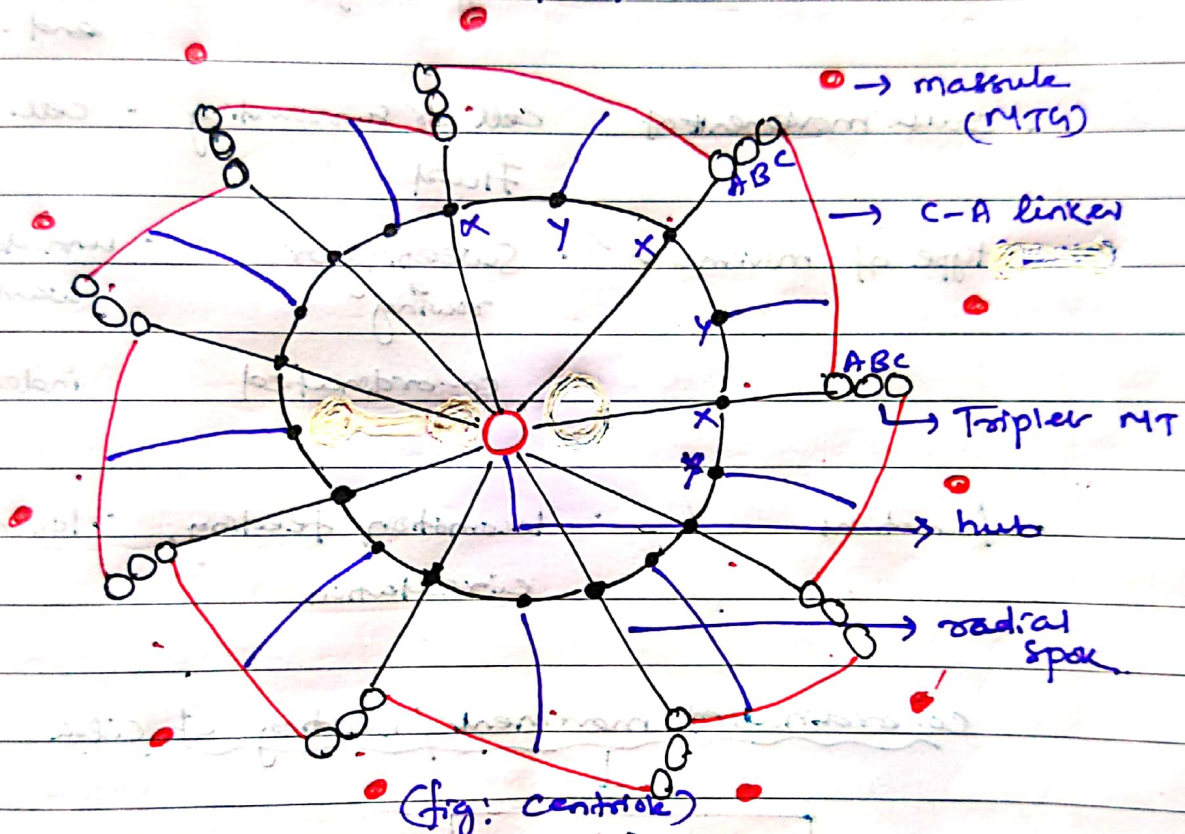
✓ connected to 9

✓ linked by C-A linker

peripheral MT

by 9 radial spokes

• Centriole \rightarrow 9+0 MT organisation
 \rightarrow Triplet, peripheral.



Cilia, flagella (sing: cilium, flagellum)

• emerge from basal body.

• Structurally similar

• hair like outgrowths of PM.

• covered by PM (e-microscope)

• their core $\xrightarrow{\text{C/A}}$ Axoneme.

\downarrow has

9+2 MT organisation

\downarrow peripheral doublet
 \downarrow central singlet

• cilia act as oars.

• made of tubulin protein + nexin protein + dynein protein
 \downarrow ATPase