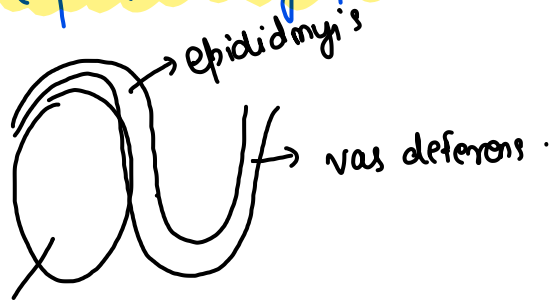


(In vivo capacitation)

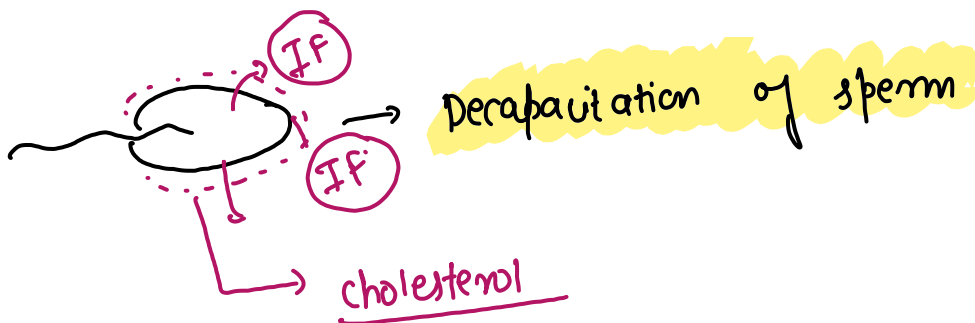
→ capacitation of sperm



Testis

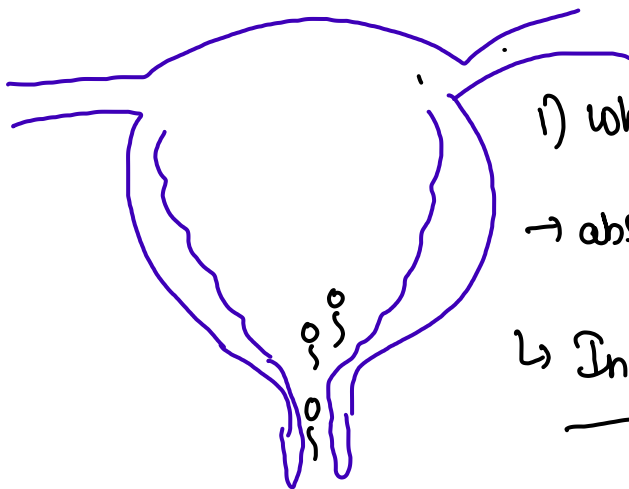
Maturation :- epididymis + vas deferens

(↓ se activity due to inhibitory factor secreted by epithelia of genital duct)



Inhibitory factor & cholesterol

- 1) Toughens the membrane.
- 2) prevent release of Enzyme from Acrosome
- 3) ↓ Motility of sperm.



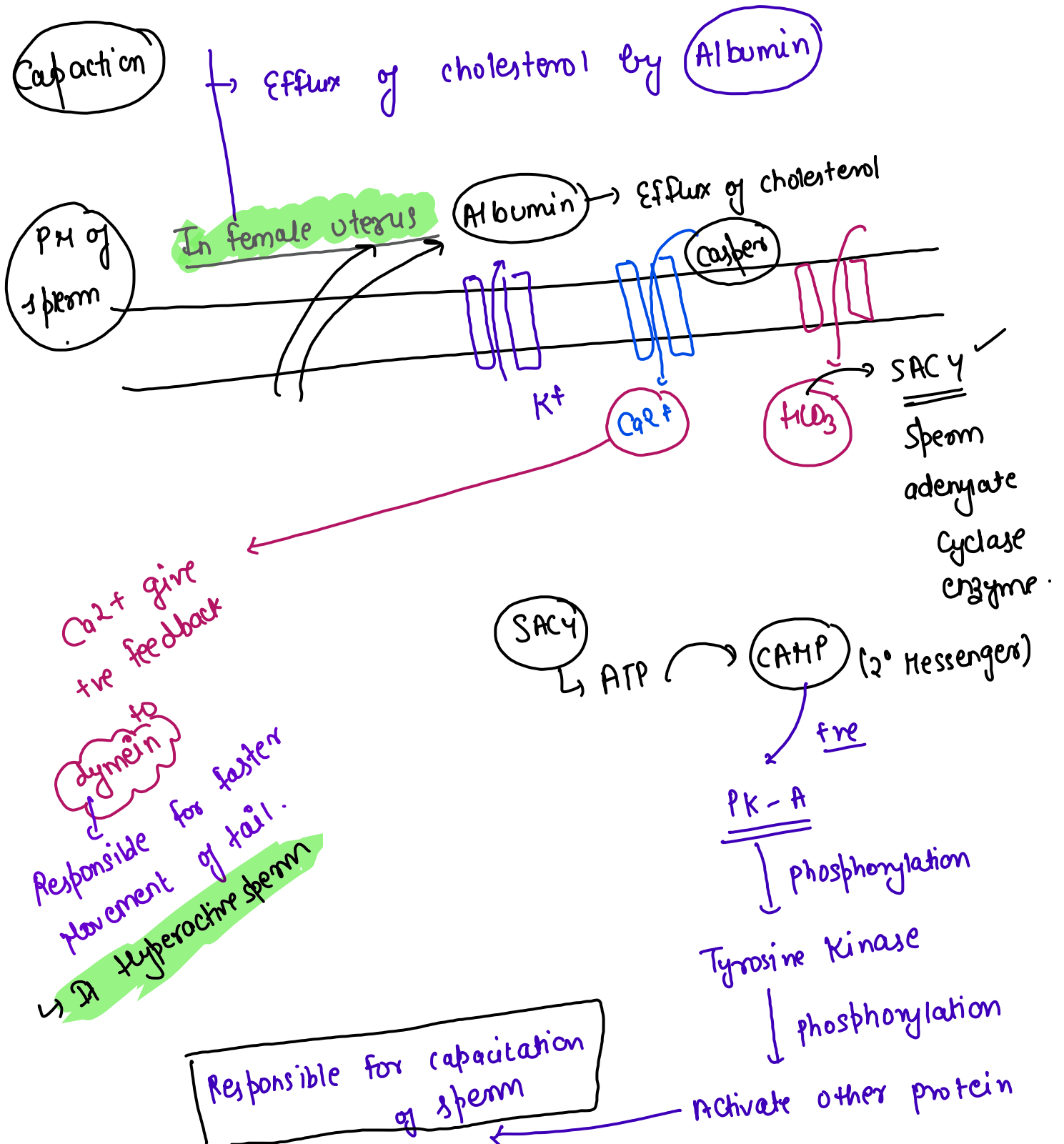
- 1) When sperm enters in vagina
→ absence of cholesterol environment
↳ In uterine cavity
↳ Removal of cholesterol take place.

→ when sperm come in contact with fluid in female genital tract

(fluid of uterine tube + fallopian)

→ wash away the inhibitory factor

→ Now Membrane permeability for Ca^{2+} ↑se
(↑se power of motion)



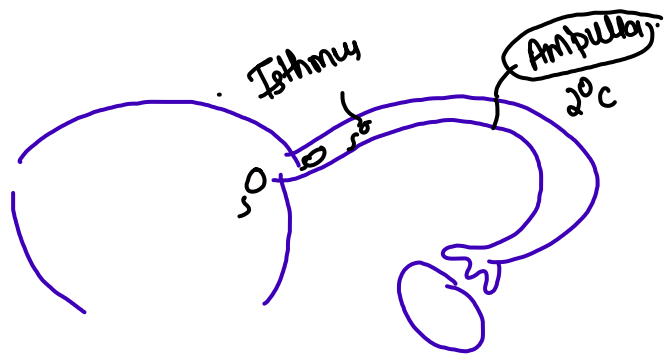
2) Thermotaxis → temp. difference

(2°C)

↳ temp diff seen

in b/w Isthmus & Ampulla

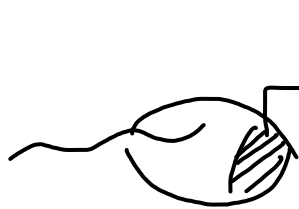
↳ 2°C more warmer than the Isthmus.



Chemotaxis ↳ progesterone (attract male sperm)

Acrosome Rxn

Reaction b/w acrosome of sperm & Receptor of zona pellucida of ovum.



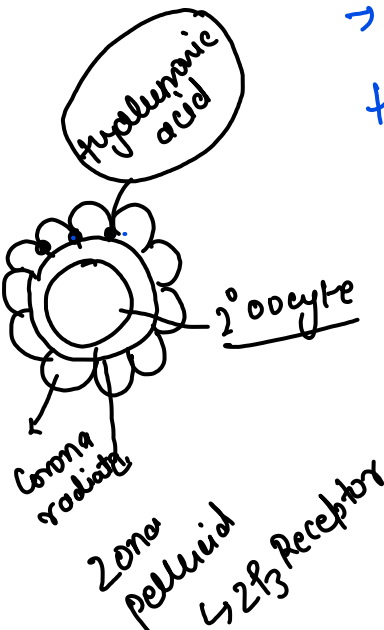
Acrosome

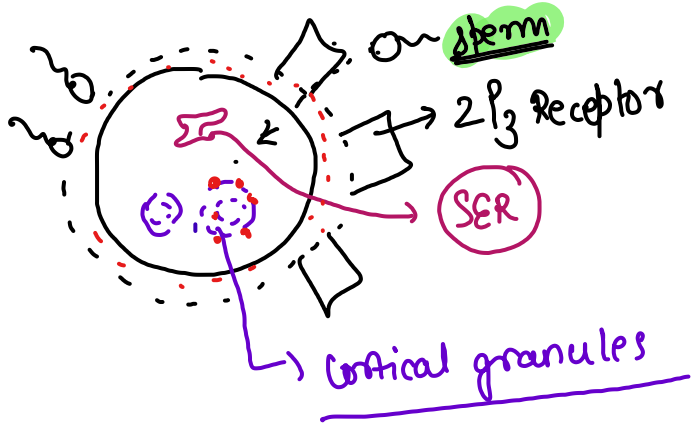
Hyaluronidase

Proteolytic enzyme.

→ Depolymerises hyaluronic acid polymer in intercellular cement that hold all granulosa cell together.

Digest proteins in structural element of tissue cell that adhere to ovum.





2) CPE - Corona Penetrating Enzymes
 ↳ Digest the cells of the corona radiata.

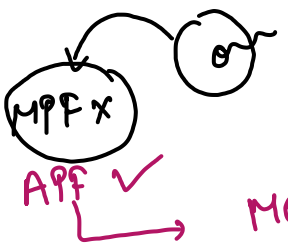
3) Acrosin / Zonalysin
 ↳ Degrade the layer of zona pellucida.

ZP3 Receptor : sperm-ovum Recognition

2) Cortical Rxn → prevent polysperm

1st sperm enters
 ↳ membrane depolarised
 ↓
 2nd sperm shock.

↳ Ca²⁺ fused to cortical granules
 ↓
 Granules enter perivitelline space
 ↓
 Alters the protein of zona pellucida
 ↓
No sperm Recognition



Meiosis 2 complete → ovum.

[Male ⁿ pronuclei + female ⁿ pronuclei → Zygote]

