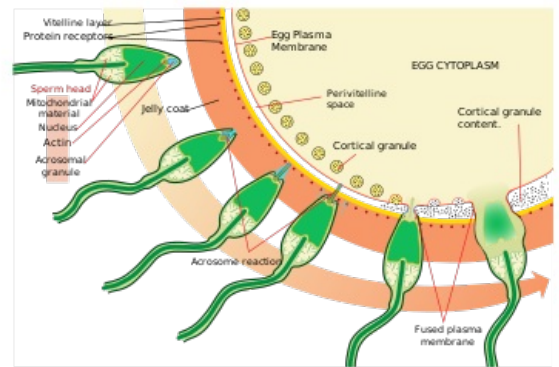


Acrosome reaction

Acrosome reaction' (acrosomal reaction) is the release of enzymes from the acrosome that dissolve the *zona pellucida* and allow the sperm to fuse with the egg. The sperm must first undergo **capacitation** - the interaction of the sperm with the fallopian tube epithelium - when the glycocalyx is removed from the acrosome sac.

Course of reaction

The **zona pellucida** (the glycoprotein envelope surrounding the ovule) contains zonal protein 3 (ZP3 ligand), which induces and controls the acrosome reaction. Release of enzymes from the acrosomal sac causes disruption of the intercellular junctions of the *corona radiata* and disruption of the *zona pellucida*. The spermatozoa thus come into contact with the egg membrane. This is followed by membrane fusion by interaction of integrin oolemma with the disintegrins of the sperm membrane.



Acrosome reaction

Acrosome

Sperm organelle containing lytic enzymes for disrupting cell junctions. It is located at the apex of the sperm head. It is formed by the process of gametogenesis (spermiogenesis) by the union of several secretory vesicles from the Golgi complexes into one. The acrosome contains the following enzymes:

- protease- acrosin-protease (related to trypsin);
- glycosidase - hyaluronidase;
- lipase - phospholipase.

References

Related articles

- Fertilization

Resources

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