

Chemical constituents of semen

Semen is composed of two portions; liquid part (seminal plasma) and solid part (sperms). In the lower species and birds the semen is a thick mass of sperms with little volume of plasma (gelatinous in consistency).

Seminal plasma is secreted majorly (about half of volume) from seminal vesicle gland, while other residue of plasma secreted from prostate, bulbo-urethral glands, ampullae and mucous membranes of epididymis and vasdeferense.

Seminal plasma composed of:

1. **Fructose:** majorly secreted from seminal vesicle gland and it is a main source of energy for spermatozoon.
2. **Citric acid:** secreted from seminal vesicle and has a role in an osmotic pressure of semen.
3. **Vitamins:** like, vitamin C and riboflavin.
4. **Proteins and amino acids:** e.g. glycerin, serine and glutamic acid.
5. **Hormones and enzymes and fatty acids:** such as, testosterone hormone, estrogen (from Sertoli cells), prostaglandin, acetic acid, formic acid and hyalourinidase enzyme.
6. **Ions:** e.g. calcium, magnesium, zinc and bicarbonate.

The physiological properties of spermatozoon:

1. Has a metabolic activity in the body (mid-piece) like, fructo-lysis and oxygen consumption.
2. Has ability to transport by the movement of tail.
3. Has ability to penetrate and fertilize oocyte by acrosome enzymatic reaction.