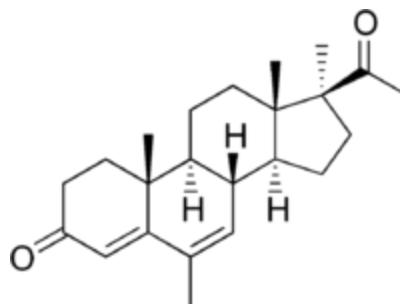


Progesterone



Medrogestone

Steroids Role in biotechnology:

Steroids constitute a particular class of lipids characterized by a typical tetracyclic skeleton, composed of one five-member ring and three fused six-member rings. Steroids are widely used as therapeutic agents and since their inception in the market, research efforts have been made in order to improve production processes as well as to develop novel synthetic molecules, with enhanced efficiency and reduced side effects. Given the complexity of the steroid skeleton, total chemical synthesis of given steroid molecules is hardly an effective approach; hence, steroid production processes rely on chemical modifications of educts that structurally resemble the targeted product. Still, steroid molecules present multiple chiral centers, a feature that makes particularly appealing the use of the selective microbial catalysts to provide a pathway that does not require protection, and additional deprotection steps. Furthermore, bioconversions are performed in a milder, greener environment, as compared to the purely chemical approach. [9]

Difference between phospholipids and steroid:

The name of phospholipid is somewhat self-explanatory. The prefix, phospho- suggests that there is a phosphate group in the lipid molecule. The phosphate group is on the head of the phospholipid. Since phosphate is charged, it is hydrophilic or attracted to water. The other end is made of long chains of hydrocarbons making it hydrophobic or repelling water. Phospholipid is also the major building block of the cell membrane.

Steroids contain a cholesterol backbone which is rigid. They are also hydrophobic. Structurally, steroids have large aromatic rings, much like benzene making up most of its structure. That is why it's more rigid than phospholipids and thus is present in the cell membrane to provide structural support. Also, steroids mostly function as hormones such as testosterone or estrogen. [10]