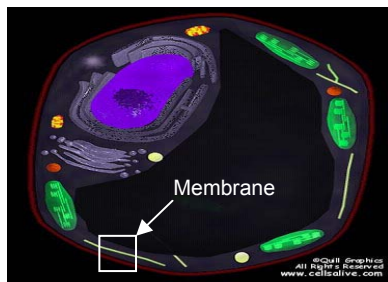
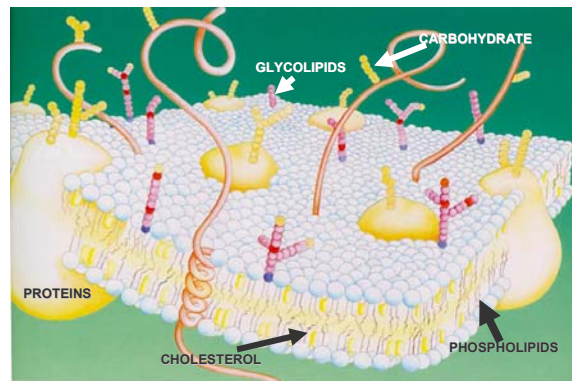


« SECOND SKIN » EFFECT OF PHOSPHOLIPIDS

Phospholipids are essential constituents of cellular membrane. Organised in bi-layers, they form a selective protective barrier depending on components affinity.



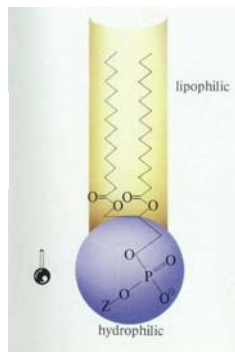
Cell



Cellular membrane

A phospholipid is a molecule made of a hydrophilic head and two lipophilic chains. This bipolarity is responsible for its emulsifying properties.

Phospholipid structure

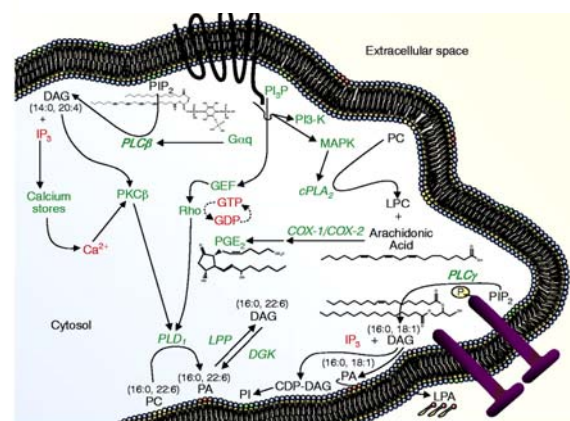


Depending on the nature of Z group, phospholipids are different molecular type:

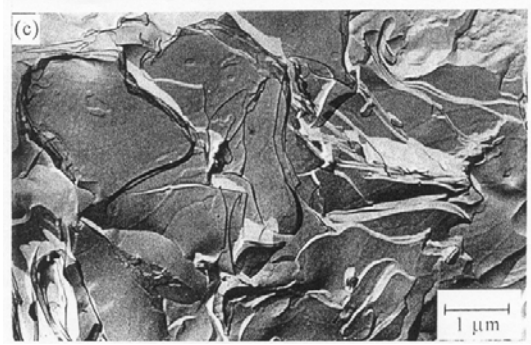
- Phosphatidylcholine (PC)
- Phosphatidylserine (PS)
- Phosphatidylinositol (PI)
- Phosphatidylethanolamine (PE)
- Phosphatidic acid (PA)

Each type of phospholipids is involved in several complex biochemical reactions and has several intracellular properties. PS and PE are known to act on the brain area, while PI, PC and PA are mainly involved in inflammatory mechanisms and mechanisms linked to calcium (muscular contraction, cellular communication, etc...).

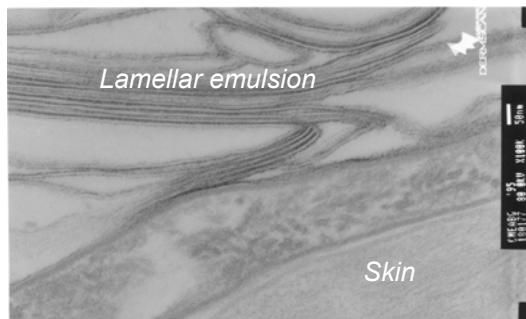
Biochemical mechanisms with phospholipids



Thanks to the capacity of phospholipids to organise in bi-layers, phospholipids based emulsifiers allow to obtain lamellar emulsions. The superposition of these layers gives to them a biomimetic structure, very close to the skin structure. Products formulated with phospholipids will thus have a high skin affinity, compatibility and tolerance.



Lamellar structure



When a cosmetic product is applied on the skin, it will keep its lamellar structure and form a second skin with layers visible in electronic microscopy.

Phospholipids give a characteristic touch to emulsions: soft and velvety, non greasy and cool. Their film forming property decreases the TEWL and increases the hydration of stratum corneum.