



تَوِير

BIOLOGY

Lec no :

Lipids

File Title :

Summary

Done By :

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وَقُلْ رَبِّ زِدْنِي عِلْمًا



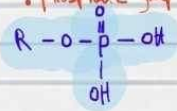
Lipids [large biological molecule] unifying feature: little or no affinity for water
 hydrophobic / hydrocarbon non-polar covalent

Fats

- glycerol 3 carbon of alcohol and carbon from hydroxyl group
- 3 fatty acid long carbon skeleton with carboxyl group
- other name: triglycerid, triacylglycerol

phospholipids

- glycerol
- 2 fatty acids [hydrophobic tail]
- phosphate group [hydrophilic head]



when water add to phospholipids they self-assemble into bilayer and it is the major component of all cell membrane

Steroid

- Carbon skeleton
- consisting of four fused ring.
- 3-bc 17c cholesterol g.
- in animal and it is essential and contribute in a cardiovascular diseases.

Fatty Acid

| Saturated | unsaturated |
|-----------------------|---------------------------|
| maximum number of H | - one or more double bond |
| solid | liquid |
| example: stearic acid | example: oleic acid |
| Animal except fish | plant and fish |

cis-double bond: natural double bond
 trans-double bond: after hydrogenating

روح يضل في عندي double bonds
 trans double bonds

Hydrogenating: adding H to convert saturated fatty acid to saturated one.

Essential fatty acid: not synthesized on human body so it need to be supplied like omega-3
 → required normal growth
 → protection against cardiovascular diseases.

the diet that rich in saturated fatty acid are increased cardiovascular disease

Fats function: ① energy storage [Adipose cell]

② Adipose tissue that cushion vital organ and insulate the body