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SUKHADIA
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DEPARTMENT
OF
ZOOLOGY

Topic

Biochemical test of Lipid

B.Sc. 3rd
Practical of Zoology

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Lipid:

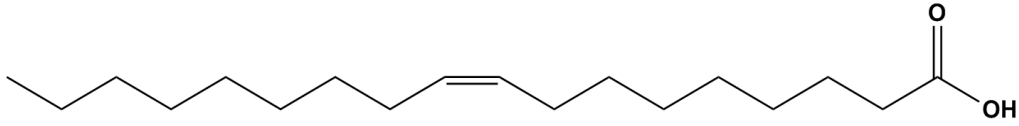
Lipids are esters of moderate to long chain fatty acids.

In biochemistry, lipids are organic compounds, composed largely of Carbon, Hydrogen and oxygen, that are essential for cell growth.

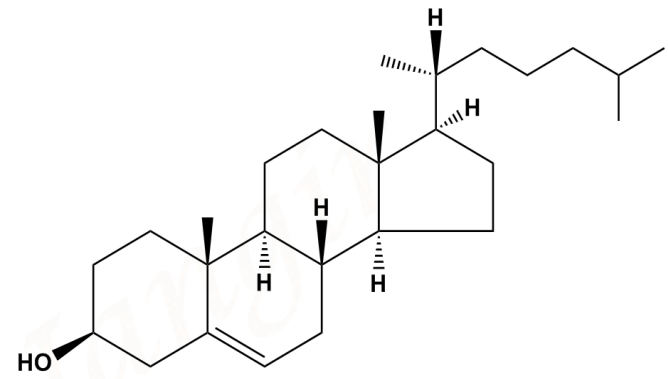
Fatty acids and their derivatives are insoluble in water but soluble in nonpolar solvents (chloroform and benzene). They include many natural oils, waxes, and steroids.

major purposes of lipids in the body are storing energy, aiding the development of cell membranes and serving as components of hormones and vitamins

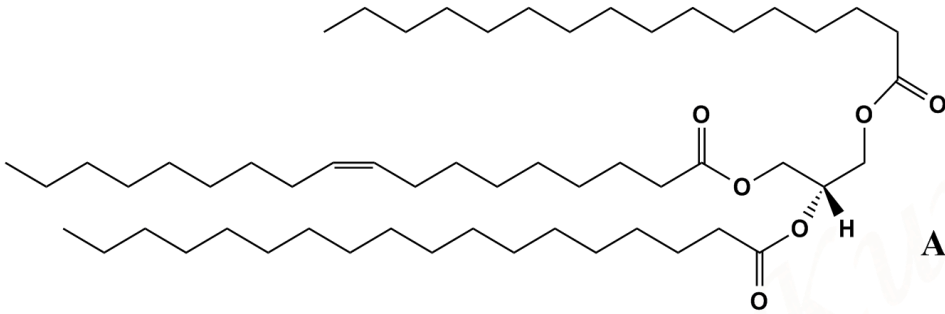
They are more commonly synonymous with the word "fats" when speaking in terms of personal health “although all fats are lipids, not all lipids are fats”



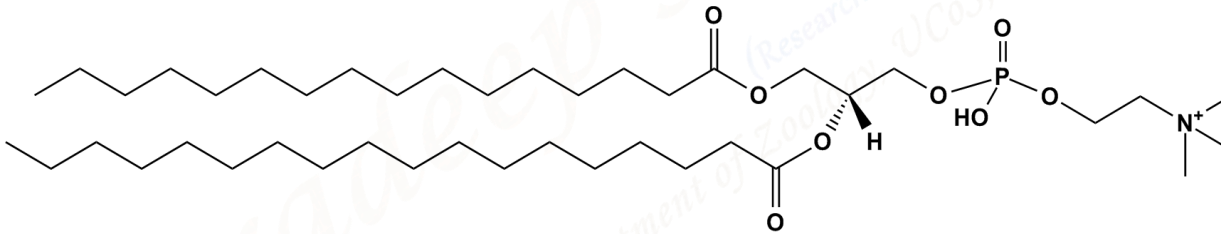
A free fatty acid



Cholesterol

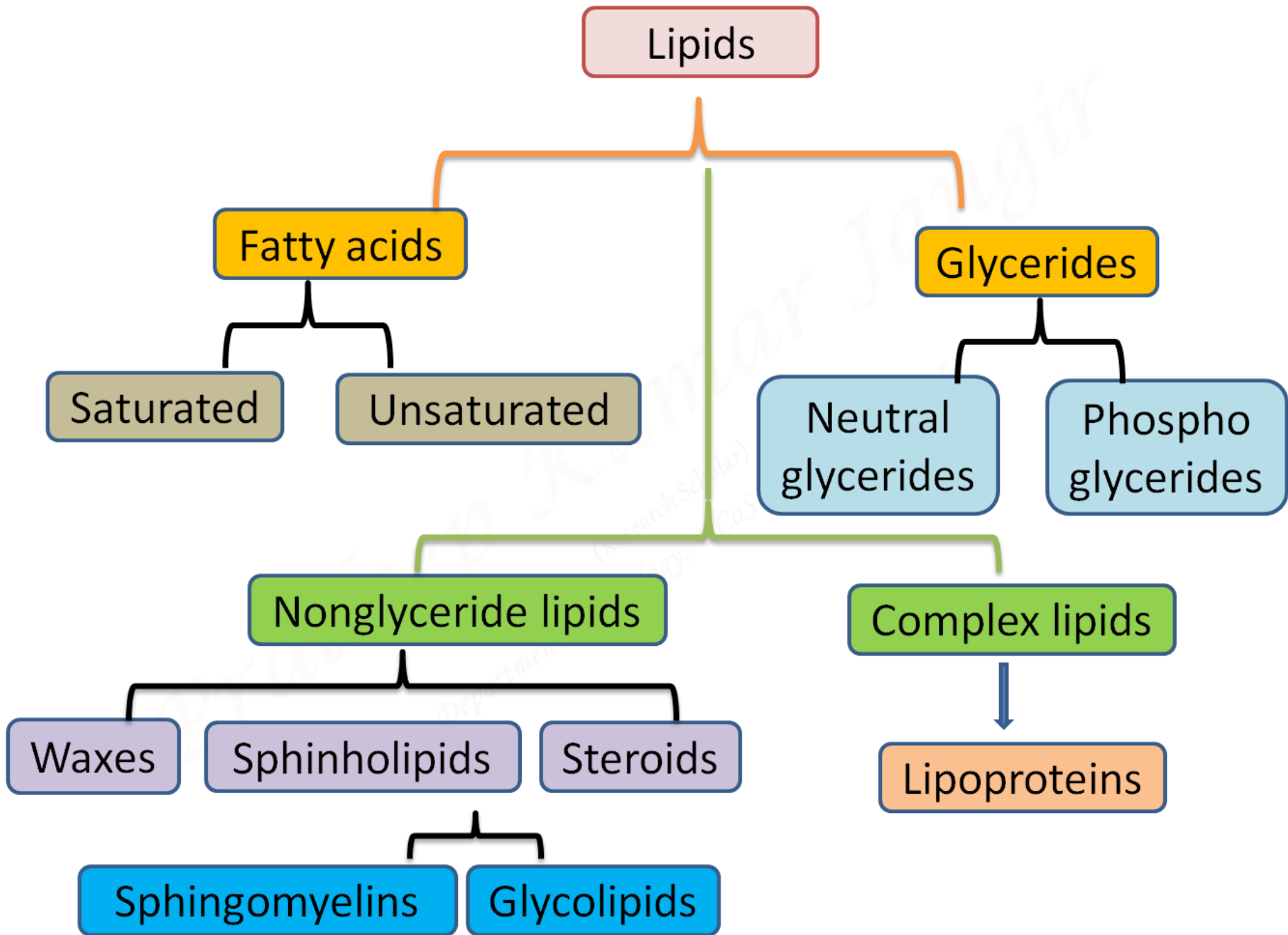


A triglyceride



A phospholipid

Lipids



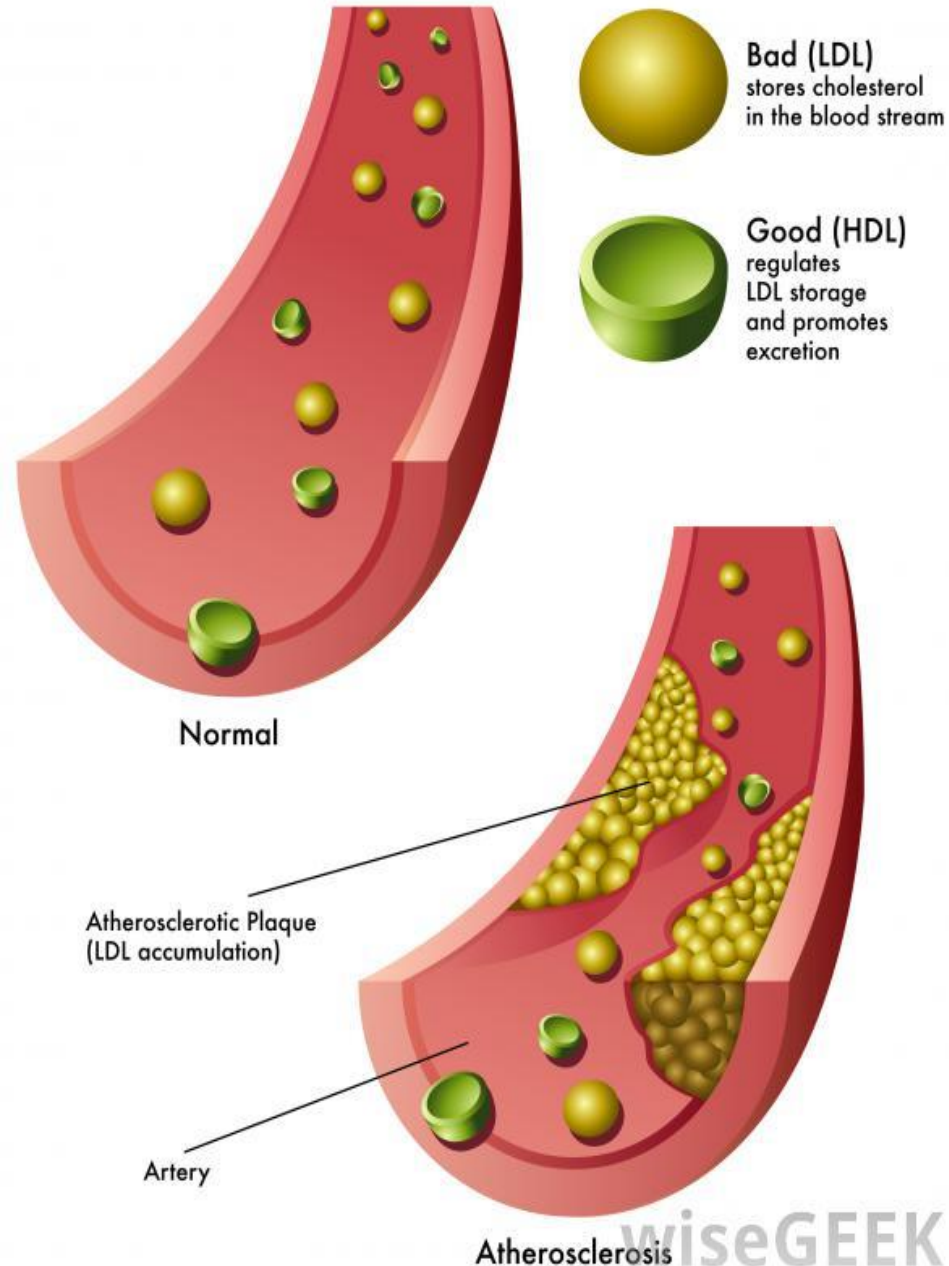
Cholesterol is a naturally occurring substance in the body and is comprised of lipids.

It is separated into two types: high-density lipoprotein (HDL) and low-density lipoprotein (LDL).

HDL is often referred to as "good cholesterol" because it is beneficial to a person's health.

LDL is often called "bad cholesterol" because too much of it can be harmful.

Bad vs. Good Cholesterol



S. No.	Test	Procedure	Observation	Result
1.	Sudan Test	<p>Take 0.5 ml ether or chloroform in a test tube.</p> <p>Add 0.5 ml sample-drop by drop till the sample is fully dissolves.</p> <p>Add one drop of Sudan III reagent</p>	Red colour appears	The sample contains fat
2.	Acrolein test	<p>Take 0.5gm powdered sodium bi-sulphate (NaHSO_4) or potassium bi-sulphate (KHSO_4) in a clean dry test tube.</p> <p>Add 3 to 4 drops of sample and Mix thoroughly and heat</p>	An irritating smell of acrolein is felt	Sample contains fat

S. No.	Test	Procedure	Observation	Result
3.	Solubility Test	<p>Take five test tubes marking A, B, C, D, E.</p> <p>Put 5 ml—water, absolute alcohol, ether, chloroform and benzene one in each test tube respectively.</p> <p>Add 3 to 4 drops of sample in each test tube, shake thoroughly, allow to stand</p>	<p>In test tube A drops of oils are seen floating on the surface of water,</p> <p>In test tube B oil drops settle at the bottom of alcohol</p> <p>In test tubes C, D and E the sample is mixed.</p>	<p>The sample contains fat, as it is not soluble in water (test tube A) but soluble only in organic solvents (test tube B, C, D, E) and sinks to the bottom in alcohol (B)</p>



Thank You