



LIPOPROTEIN

Presented by:

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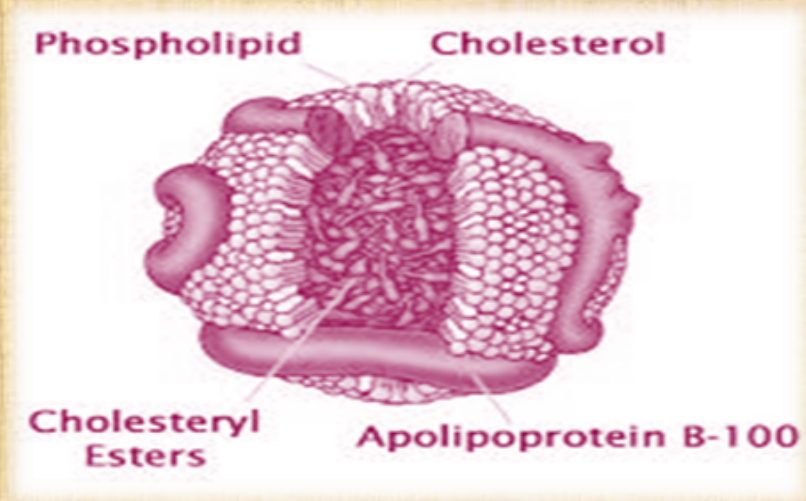
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ILO'S

- ❖ Define lipoprotein
- ❖ Describe structure of lipoprotein
- ❖ List types of lipoprotein
- ❖ Identify functions of lipoproteins
- ❖ Describe how lipoproteins transport lipids in the body

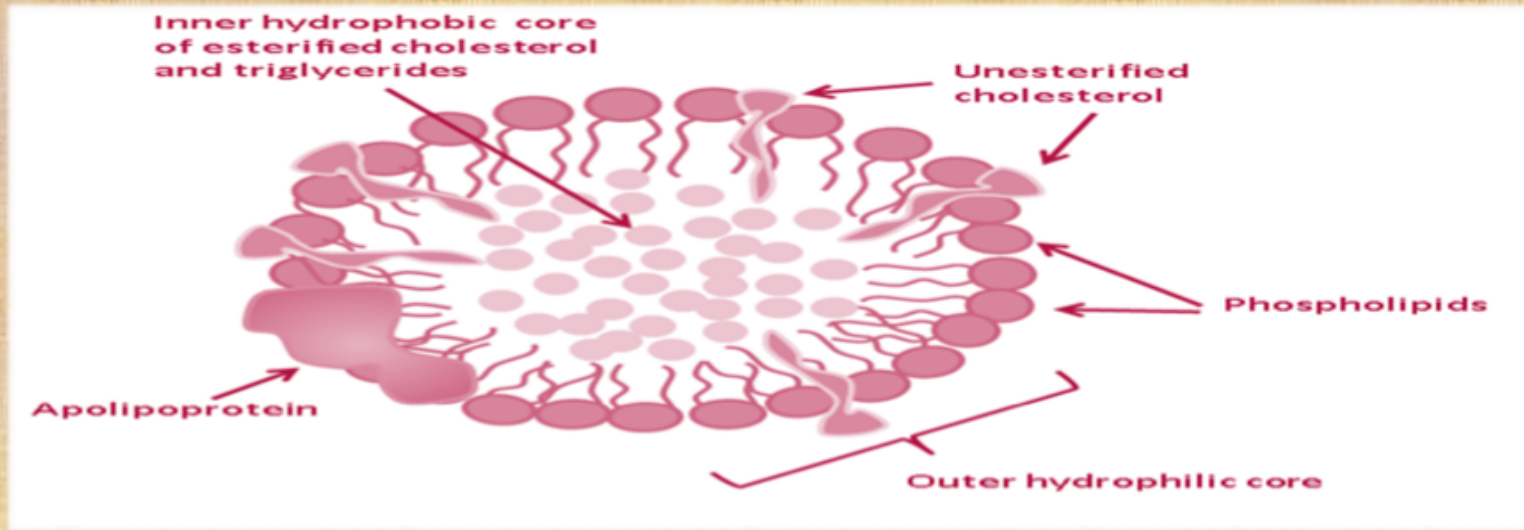
Define lipoprotein

A molecule that is a combination of lipid and protein. Lipids do not travel in the blood by themselves, but they are carried through the bloodstream as lipoproteins.



Describe structure of lipoprotein

Lipoproteins are complex particles that have a central hydrophobic core of non-polar lipids, primarily cholesterol esters and triglycerides. This hydrophobic core is surrounded by a hydrophilic membrane consisting of phospholipids, free cholesterol, and Apo lipoproteins.



List types of lipoprotein



chylomicron

VLDL

LDL

IDL

HDL

Identify functions of lipoprotein

Chylomicrons: These lipoproteins are the least dense out of all of the lipoproteins. are responsible for transporting lipids from the intestinal tract to cells in the body.

Low-Density Lipoproteins (LDL):LDL is responsible for carrying cholesterol to cells that need it.

High-Density Lipoprotein (HDL)

It is responsible for carrying cholesterol from cells back to the liver. Because of this, HDL is considered the “good” cholesterol.

Very Low-Density Lipoproteins (VLDL)

VLDL is responsible for delivering triglycerides to cells in the body, which is needed for cellular processes

Describe how lipoproteins transport lipids in the body

lipids, such as cholesterol and triglycerides, are insoluble in water these lipids must be transported in association with proteins in the circulation.

These lipoproteins play a key role in the absorption and transport of dietary lipids by the small intestine, in the transport of lipids from the liver to peripheral tissues, and the transport of lipids from peripheral tissues to the liver and intestine (reverse cholesterol transport).

transport toxic foreign hydrophobic and amphipathic compounds, such as bacterial endotoxin, from areas of invasion and infection

Lipoproteins	Major Core Lipids	Apoproteins	Size
Chylomicrons	Dietary triacylglycerols, cholesterol esters	B-48, C, E	75-1200 nm
VLDL	Endogenous triacylglycerols	B-100, C, E	30-80 nm
IDL	Endogenous cholesterol esters	B-100, E	25-35 nm
LDL	Endogenous cholesterol esters	B-100	18-25 nm
HDL	Endogenous cholesterol esters	A, C, E	8-12 nm

Summary

- Lipoproteins are complex particles that have a central hydrophobic core of non-polar lipids, primarily cholesterol esters and triglycerides.
- Lipoprotein consist of five major types are :LDL, HDL, VLDL, Chylomicron, IDL.
- Lipoprotein are transportation the lipids in the body

References:

- <https://www.ncbi.nlm.nih.gov/books/NBK305896/>
- <https://www.rxlist.com/script/main/art.asp?articlekey=4172>



thank
you