

COLLEGE OF DENTISTRY
UNIVERSITY OF BAGHDAD IN
SHANGHAI RANKING



**SHANGHAI
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**Global Ranking of Academic
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**BLOOD
LIPOPROTEIN**

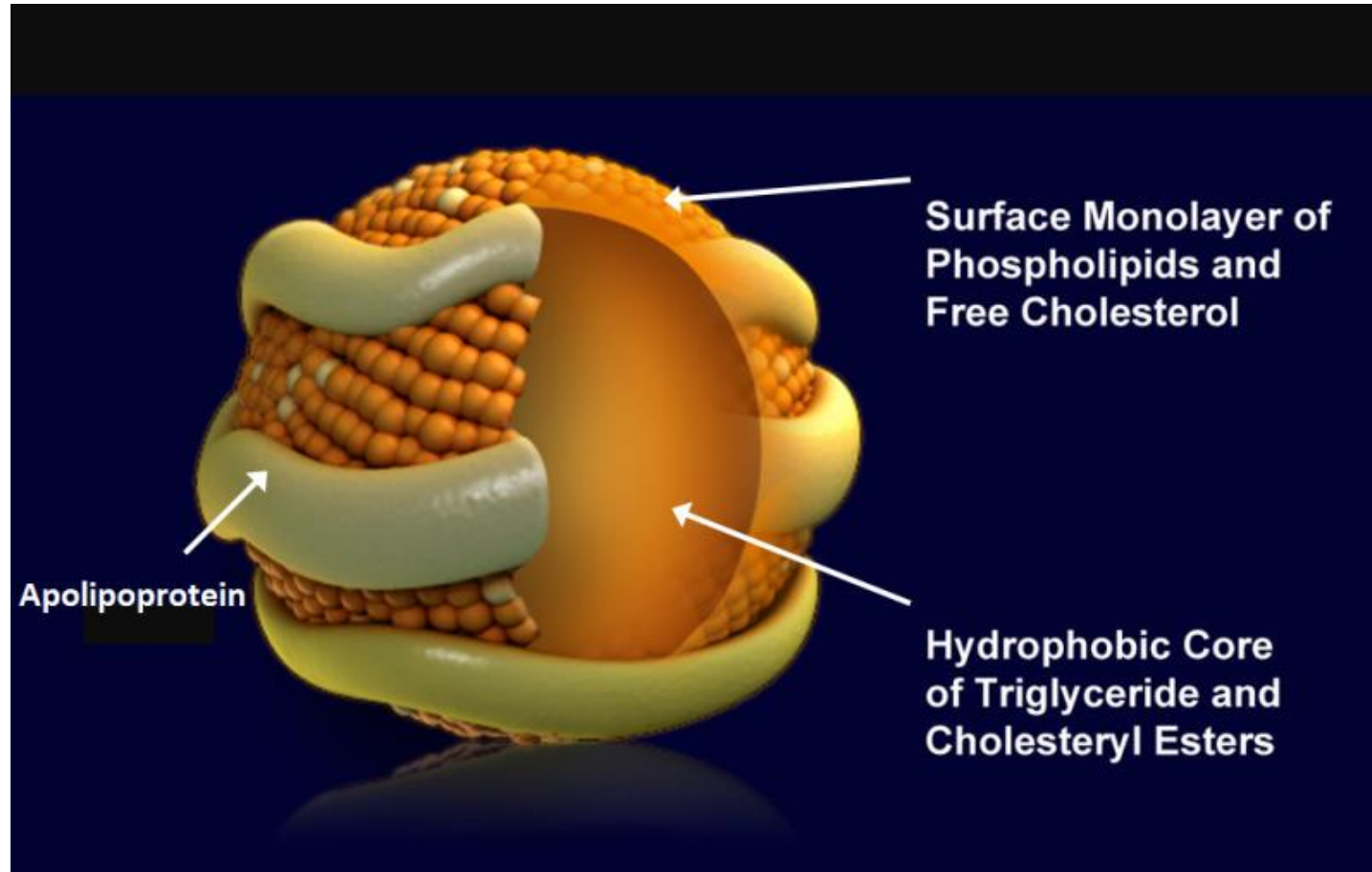
BLOOD LIPOPROTEIN

What are lipoproteins?

- Because lipids are relatively insoluble in aqueous media, they are transported in body fluids as, often spherical, soluble protein complexes called lipoproteins. Lipids can be derived from food (exogenous) or synthesized in the body (endogenous). The water-soluble (polar) groups of proteins, phospholipids and free cholesterol face outwards and surround an inner insoluble (nonpolar) core of triglyceride and cholesterol esters. Lipoproteins are classified by their buoyant density, which inversely reflects their size. The greater the lipid to protein ratio, the larger their size and the lower the density.

- 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 apolipoproteins

- Lipoproteins are round particles made of fat (lipids) and proteins that travel in your bloodstream to cells throughout your body. Cholesterol and triglycerides are two types of lipids found in lipoproteins.
- Your body makes different types of lipoproteins. High levels of certain lipoproteins can be harmful to your heart. But some lipoproteins have heart-protective benefits.



What are cholesterol and triglycerides?

- Cholesterol and triglycerides are waxy fats that circulate in your blood. Your body produces and uses these fats differently:
- **Cholesterol:** Your liver makes cholesterol. You also get it from the food you eat, such as animal fats like meat and dairy products. This fat helps your body produce vitamin D and the hormones estrogen, testosterone and cortisol. It also helps build cells in your nervous system.

- **Triglycerides:** Your liver and intestines in your digestive system make triglycerides. When you eat a lot of fat and calories, your body produces even more triglycerides. It stores the excess in fat cells. These fat stores release triglycerides into your bloodstream when your body needs energy.

Types of lipoproteins

- There are five main types of lipoproteins:
- High-density lipoprotein (HDL) is the “good cholesterol.” It carries cholesterol back to your liver to be flushed out of your body. High levels of HDL reduce your risk of cardiovascular (heart) disease.

- **Low-density lipoprotein (LDL)** is the “bad cholesterol.” It increases your risk of coronary artery disease, heart attacks and stroke. LDL carries cholesterol that accumulates as plaque inside blood vessels. Plaque buildup can make blood vessels too narrow for blood to flow freely. This condition is atherosclerosis.

- **Very low-density lipoproteins (VLDL)** are another type of “bad cholesterol.” VLDLs carry triglycerides — and to a lesser degree, cholesterol — to your tissues.

- **Intermediate-density lipoproteins (IDL)** are created when VLDLs give up their fatty acids. They're then either removed by your liver or converted into LDL.
- **Chylomicrons** are very large particles that also transport triglycerides.

THANK YOU