

Understanding your Apolipoprotein B levels

How to analyze, assess, and optimize your biomarkers

Definitions

Apolipoprotein B (ApoB) is a cholesterol-transporting protein found on the surface of all potential artery-clogging lipoproteins. ApoB is the major structural component of very-low-density lipoprotein (also known as VLDL), LDL particles, and Lipoprotein A.

Atherosclerosis is a condition that involves the formation of plaques that deposit on the inner walls of arteries. Plaque accumulation in the heart or brain can lead to heart attack or stroke when compounded over time.

Biomarker spotlight: The importance of knowing your ApoB

Q: What's the benefit of ApoB? Isn't it enough to know other biomarker levels in my blood lipid profile, like the different types of cholesterol (HDL, LDL, total cholesterol) and triglycerides?

A: ApoB provides a direct measure of the number of ApoB particles in the bloodstream and can more accurately predict potential heart-disease risks compared to a calculation-based measure like LDL cholesterol, which is based on total cholesterol, HDL cholesterol, and triglycerides. Since cholesterol can only enter the arterial wall within ApoB particles, the quantity of cholesterol that will be deposited is determined by the rate at which ApoB particles are trapped within the arterial wall.

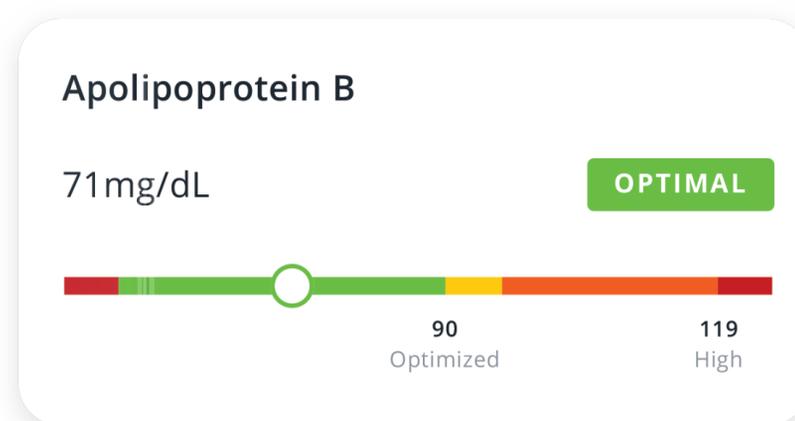
Course notes

Interpreting ApoB levels

- **An optimal ApoB level** indicates healthy cholesterol transport and clearance, and is beneficial for heart health and longevity.
- **High ApoB** can indicate decreased clearance of cholesterol from the blood, and is often coupled with high LDL cholesterol levels. High ApoB and LDL levels can lead to plaque buildup and the narrowing of arteries, a risk factor for heart disease.

How to improve your ApoB levels

- **Reduce saturated fats.** When working on ApoB levels, consider swapping saturated fats found in foods like cheese, high-fat cuts of meat, whole-fat dairy, or palm and coconut oil for unsaturated fats like olive or avocado oil.
- **Eat more fiber-rich foods** like oats which are high in beta-glucan, a soluble fiber that clears out cholesterol, and beans.



Key takeaway

- **Track your progress over time.** It can take a few months to begin to see meaningful changes in ApoB. But with small lifestyle modifications and retesting every 3-6 months, it's possible to understand what actions work to improve this critical marker.