

## Chylomicron Component Apolipoprotein B

**Analyte:** Chylomicron Component Apolipoprotein B

**Specimen Type:** Serum, EDTA Plasma

**Optimum Volume:** 2.5 mL\*

**Stability:**

2-8 Degrees C	-20 Degrees C	-70 Degrees C
10 days	3 months	4.5 years

**Reporting Units:** mg/dL

**Method:** Ultracentrifugation & Immunoturbidimetric

**Biological or Clinical Significance:**

Chylomicrons are particles that have a density less than 0.94 mg/mL. They are large triglyceride-rich lipoproteins that arise from the small intestine, where they are synthesized in enterocytes from apolipoproteins and lipids arising from post-prandial digestion of lipids by pancreatic and intestinal lipases and cholesterol esterase. The chylomicrons range in size from 75 to 1200 nm in diameter and their mass ranges from  $50 \times 10^6$  to  $1 \times 10^9$  Daltons. Other lipid soluble materials, such as fat-soluble vitamins are also incorporated into chylomicrons. The chylomicron particles contain one copy of apolipoprotein B-48.

Chylomicron particles are acted on by lipoprotein lipase in the peripheral circulation, which hydrolyzes the triglyceride to glycerol and free-fatty acids. The latter are primarily deposited in the adipose tissue. The chylomicron remnants that remain in the circulation are taken up by the liver, where the remaining triglyceride and cholesterol esters are further hydrolyzed for packaging into VLDL particles.

**Principle of Test Method:**

The chylomicron determination at PBI using a one-hour ultracentrifugation. The tubes are sliced to remove the chylomicron fraction from the remainder of the lipoproteins. Apo B from the whole serum/plasma and the bottom fraction are measured. The difference between these two concentrations is the concentration of Apo B in chylomicron.

\* 2.5 mL allows for repeat analysis if needed