

# TMAO (Trimethylamine N-oxide)



**CPT Code:** 82542

**Order Code:** C524

**ABN Requirement:** No

**Specimen:** Serum

**Volume:** 1.0 mL

**Minimum Volume:** 0.5 mL

**Container:** Gel-barrier tube (SST, Tiger Top)

## **Collection:**

1. Collect and label sample according to standard protocols.
2. Gently invert tube 5 times immediately after draw. Do not shake.
3. Allow blood to clot 30 minutes.
4. Centrifuge for 10 minutes.

**Fasting:** Patients should fast overnight and refrain from consuming fish or other seafood the day before the blood draw to avoid false elevations in TMAO.

**Transport:** Store serum at 2°C to 8°C after collection and ship the same day per packaging instructions included with the provided shipping box.

## **Stability:**

**Ambient (15-25°C):** 5 days

**Refrigerated (2-8°C):** 23 days

**Frozen (-20°C):** 193 days

**Deep Frozen (-70°C):** 193 days

**Causes for Rejection:** Specimens other than serum; improper labeling; samples not stored properly; samples older than stability limits; hemolyzed specimens

**Methodology:** LCTMS

**Turn Around Time:** 5 days

**Reference Range:** Please see individual patient report

**Clinical Significance:** Gut microbes live symbiotically within the human digestive tract and play important roles in host defense, immunity, and nutrient processing and absorption. This diverse community is unique to each person and influenced by both acute and chronic dietary exposures to various food sources. Nutrients such as phosphatidylcholine (also known as lecithin), choline, and L-carnitine are abundant in animal-derived products such as red meat, egg yolk and full-fat dairy products. When consumed, these nutrients are processed by gut bacteria resulting in the release of various metabolites including TMA (trimethylamine) into the blood. TMA is then transported to the liver where it is converted into TMAO (trimethylamine N-oxide) which has been shown to regulate various physiological processes involved in the development of atherosclerosis.

*The CPT codes provided are based on AMA guidelines and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.*