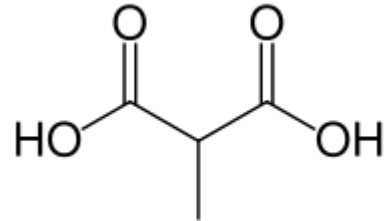


Quantification of Methyl Malonic Acid in plasma by GC-MS

Methyl Malonic acid (MMA) is a dicarboxylic organic acid produced via breakdown of amino acids in the body. MMA is converted to succinyl-CoA, a constituent of the Krebs cycle. This conversion requires Vitamin B12 (cobalamin) as a coenzyme. If Vitamin B12 levels are low this will lead to a concurrent increase in MMA levels.

The reference range of MMA is below 0.30 μM for individuals up to 65 years and below 0.36 μM for individuals above 66 years of age. MMA is usually measured along with homocysteine to confirm vitamin B12 deficiency.

Vitas AM-291 is an isotope dilution GC-MS assay which determines MMA after derivatization using chloroformates.

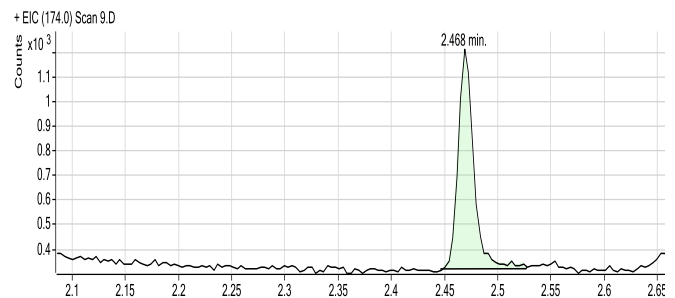


Methyl Malonic acid (MMA)

Method details:

- Technique: GC-MS
- Sample Matrix: Plasma/serum
- Species: Human
- Sample amount: 1 ml
- Range: 0.08-1.7 μM
- Detection Limit: 0.03 μM
- Quantification limit: 0.08 μM
- Intra-day precision: 3.1 %
- Shipping temp: Dry ice

Chromatogram of MMA in human plasma



Vitas is a Norwegian GMP certified chemical analysis contract lab, with 20 years experience in providing a high quality, custom chromatographic analytical service based on cutting-edge knowledge and technology.