Quantification of 25-OH-D3 and 3-epi-25-OH-D3 in plasma using LC-MS

Calcifediol also known as 25-hydroxycholecalciferol or 25-hydroxyvitamin-D3 is a pre-hormone that is produced in the liver by hydroxylation of vitamin D3 (cholecalciferol). The blood concentration of 25OHD3 is considered the best indicator of vitamin D status. 25OHVitD2 is less important but is screened in case of D2 based medication is used. Serum 25OHD3 is transported in the blood bound to vitamin D binding protein (DBS). Serum values greater than 50 nmol/L is regarded to indicate sufficient body stores.

Vitas AM-132 separates 25OHD analogues from matrix components. The 3-epimer is separated from 25OHD3. The method is based on Protein precipitation, liquid liquid extraction and RP-HPLC-MS/MS.

Method details:

- Technique: RP-HPLC-APCI-MS/MS
- Sample Matrix: Plasma, serum
- Species: All
- Anticoagulant: All
- Sample volume: 50 -100 µL
- Premature children: 10 µL
- Shipping: Dry Ice
- Method Range : 3-250 nM
- LOD: 1 nM
- Precision: 8.1 % - 13.4 %
- Accuracy: NIST SRM, DEQAS

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.