MICROVUE™
Bone Health

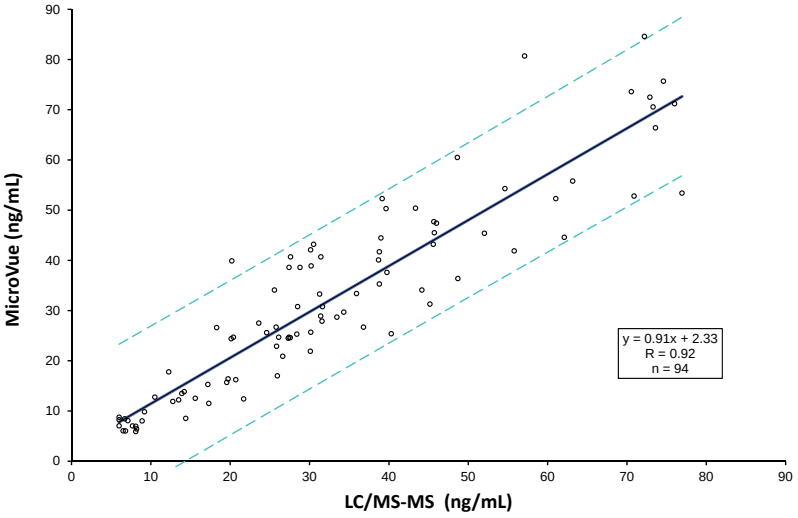
Technical
Data Sheet

MicroVue25-OH Vitamin D EIA

For *In Vitro* Diagnostic Use

Vitamin D is a group of fat-soluble secosteroids which are produced in the skin of vertebrates after exposure to ultraviolet light from the sun, available from artificial sources, or occur naturally in a small range of foods. In some countries, staple foods such as milk, flour and margarine are artificially fortified with vitamin D, and it is also available as a supplement in pill form. Food sources such as fatty fish, eggs and meat are rich in vitamin D and are often recommended to those suffering vitamin D deficiencies.

Three different forms of vitamin D exist in circulation but 25-OH Vitamin D is the recommended marker for determining vitamin D status. Total 25-OH Vitamin D is a combined measurement of two major forms, vitamin D_2 (ergocalciferol) and vitamin D_3 (cholecalciferol); known collectively as calciferol. Vitamin D is carried in the bloodstream to the liver, where it is converted into the prohormone, calcidiol. Circulating calcidiol may then be converted into calcitriol, the biologically active form of vitamin D, either in the kidneys or by monocyte-macrophages in the immune system. When synthesized by monocyte-macrophages, calcitriol acts locally as a cytokine, defending the body against microbial invaders. When synthesized in the kidneys, calcitriol circulates as a hormone; regulating, among other things, the concentration of calcium and phosphate in the bloodstream, promoting the healthy mineralization, growth and remodeling of bone. Vitamin D insufficiency can result in thin, brittle, or misshapen bones, rickets in children and osteomalacia in adults. Together with calcium, it helps to protect older adults from osteoporosis. Vitamin D also modulates neuromuscular function, reduces inflammation, and influences the action of many genes that regulate the proliferation, differentiation and apoptosis of cells.



A regression analysis for samples analyzed by the MicroVue 25-OH Vitamin D ELISA and LC-MS/MS. The dotted lines indicate the 95% confidence levels.

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Worldwide Headquarters
10165 McKellar Court
San Diego, CA 92121 USA
quidel.com

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800.874.1517 • 408.616.4301 • 858.431.3520 (fax)
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Format
- ELISA
- 96-well microplate with reagents sufficient to test 40 samples in duplicate.
- Sample type: Serum
- Controls included

Species Reactivity
- Human

Specimen
- Samples collected to avoid hemolysis

Assay Steps
- Dilute Vitamin D Conjugate, HRP, and Wash Buffer. Reconstitute Standards and Controls
- Pipette 50 µL of Standards, Control and samples into assay wells
- Add 150 µL of Assay Buffer
- Incubate 2 hours at room temp. with shaking.
- Wash the assay wells three times
- Pipette 200 µL HRP Solution
- Incubate 30 $\pm$ 5 minutes at room temp. with shaking
- Wash the assay wells three times
- Pipette 100 µL Substrate Solution
- Incubate 15 $\pm$ 5 minutes at room temp. with shaking
- Add 100 µL of Stop Solution to each assay well
- Measure absorbance at 450 nm

Assay Performance

Method: Competition
Analyte: 25-OH Vitamin D (D_2 & D_3)
Sample Volume: 50 µL
Limit of Detection: 1.5 ng/mL
Assay Range: 0-133 ng/mL
Precision (inter-assay): 4.3-4.7%
Precision (intra-assay): 2.7-5.7%
Incubation Time: <3 Hours

TO ORDER: Call Quidel Customer Service at 1.800.874.1517 (USA only), 1.408.616.4301 or fax 1.858.431.3520

MicroVue 25-OH Vitamin D EIA
Cat. #8046