

25(OH) Vitamin D ELISA kit ab213966

12 References 1 Image

Overview

Product name 25(OH) Vitamin D ELISA kit

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Sample 1	20	225.8ng/ml		1.6%
Sample 2	20	37.3ng/ml		2.1%
Sample 3	20	5.3ng/ml		3.4%

Inter-assay

Sample	n	Mean	SD	CV%
Sample 1	30	297.2ng/ml		11.5%
Sample 2	30	38.4ng/ml		15.8%

Sample type Serum, Plasma

Assay type Competitive

Sensitivity 1.98 ng/ml

Range 0.5 ng/ml - 1010 ng/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Serum	91.9	84% - 97.9%

Assay time 1h 30m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Human

Product overview 25(OH) Vitamin D ELISA kit is a complete kit for the quantitative determination of 25(OH) Vitamin

D₃ and 25(OH) Vitamin D₂ and was tested in human plasma and serum samples.

It is recommended that you read the entire kit insert before proceeding with the assay.

Recent research efforts have shown that Vitamin D levels affect various disease states and are being linked with numerous indicators of well-being in humans. These include bone diseases such as osteoporosis and arthritis, but also additional disease including hypertension, diabetes, cancer and heart disease to name a few. Our Vitamin D ELISA kit offers an alternative to labor intensive and/or costly methods of testing for Vitamin D levels in human plasma and serum.

The transformation to the active form of Vitamin D begins with 7-dehydrocholesterol being acted upon by UV rays from the sun to form parent Vitamin D₃. Alternatively, Vitamin D can be ingested as parent Vitamin D₂ from various food sources, native or fortified. These parent compounds are transported to the liver and undergo hydroxylation to 25(OH) Vitamin D. This metabolite is then transported to the kidney where it undergoes a second hydroxylation to 1,25(OH)₂ Vitamin D, the biologically active form of Vitamin D. It is important to note that levels of Vitamin D metabolites increase proportionately with increased uptake of parent Vitamin D. This combined with the greater half-life and stability of 25(OH) Vitamin D in circulation versus the active form (25 days versus 8 hours) are the reasons that the detection of the 25(OH) Vitamin D metabolite is used as the indicator for total Vitamin D concentration.

We have received feedback that this kit is not compatible with mouse samples.

Notes

Dissociation Buffer is added to wells coated with donkey anti-sheep IgG antibody. Standards and Samples are then added to these wells and dissociation of 25(OH) Vitamin D from Vitamin D Binding protein allowed to occur.

A solution of alkaline phosphatase conjugated 25(OH) Vitamin D₃ is then added, followed by a solution of sheep monoclonal antibody to 25(OH) Vitamin D.

During incubation at room temperature the antibody binds the 25(OH) Vitamin D from the sample/standard or conjugate in a competitive manner and is itself captured by the anti-sheep IgG antibody. The plate is then washed, leaving a complex with bound 25(OH) Vitamin D from samples or the Alkaline phosphatase conjugate.

A pNpp substrate solution is added initiating an alkaline phosphatase catalyzed reaction that generates a yellow color in the solution.

Stop solution is added to stop the substrate reaction and the resulting yellow color is read at 405nm. The amount of signal is inversely proportional to the level of 25(OH) Vitamin D in the sample.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

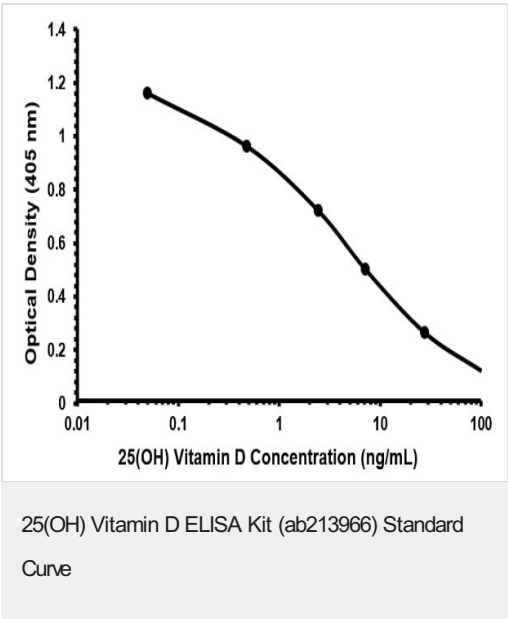
Storage instructions

Store at -20°C. Please refer to protocols.

Components	1 x 96 tests
25(OH) Vitamin D Antibody	1 x 5ml

Components	1 x 96 tests
25(OH) Vitamin D Conjugate (100X)	1 x 50µl
25(OH) Vitamin D Standard 1 (1010 ng/mL)	1 x 40µl
25(OH) Vitamin D Standard 2 (279 ng/mL)	1 x 40µl
25(OH) Vitamin D Standard 3 (71.6 ng/mL)	1 x 40µl
25(OH) Vitamin D Standard 4 (24.4 ng/mL)	1 x 40µl
25(OH) Vitamin D Standard 5 (4.8 ng/mL)	1 x 40µl
25(OH) Vitamin D Standard 6 (0.5 ng/mL)	1 x 40µl
25(OH) Vitamin D3 Conjugate Diluent	1 x 6ml
Dissociation Buffer	1 x 10ml
Donkey anti-sheep IgG Microplate (12 x 8 wells)	1 x 96 tests
Plate Sealer	3 units
pNpp Substrate	1 x 20ml
Sample Diluent	1 x 1.8ml
Stop Solution	1 x 5ml
Wash Buffer 4 Concentrate (20X)	1 x 20ml

Images



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