Datasheet for ABIN6973587

Vitamin D-Binding Protein ELISA Kit

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Overview

Quantity:	96 tests
Target:	Vitamin D-Binding Protein (GC)
Reactivity:	Human
Method Type:	Competition ELISA
Detection Range:	0.156 µg/mL - 10 µg/mL
Minimum Detection Limit:	0.156 µg/mL
Application:	ELISA

Product Details

Purpose:	For the quantitative determination of human vitamin D-binding protein (DBP) concentrations in serum, plasma, tissue homogenates.
Sample Type:	Plasma, Serum, Tissue Homogenate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This assay has high sensitivity and excellent specificity for detection of human DBP. No significant cross-reactivity or interference between human DBP and analogues was observed. Note: Limited by current skills and knowledge, it is impossible for us to complete the cross-reactivity detection between human DBP and all the analogues, therefore, cross reaction may still exist.
Sensitivity:	0.039 µg/mL

Product Details

Components:	• Assay plate • Standard • HRP-conjugate (100 x concentrate) • Sample Diluent • HRP-conjugate Diluent • Wash Buffer (25 x concentrate) • TMB Substrate • Stop Solution • Adhesive Strip • Stop Solution • Adhesive Strip

Target Details

Target:	Vitamin D-Binding Protein (GC)
Alternative Name:	group-specific component (vitamin D binding protein) (GC Products)
Background:	Abbreviation: GC Alias: DBP, DBP/GC, GRD3, VDBG, VDBP, vitamin D-binding alpha-globulin|vitamin D-binding protein
UniProt:	P02774
Pathways:	Metabolism of Steroid Hormones and Vitamin D, Monocarboxylic Acid Catabolic Process

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Sample Volume:	50 µL
Assay Time:	1 - 4.5 h
Plate:	Pre-coated
Protocol:	1. Prepare reagents, samples and standards as instructed. 2. Set a Blank well without any solution. 3. Add 50 µL standard or sample to each well. 4. Add 50 µL HRP-conjugate (1x) to each well (Not to Blank well). 5. Incubate 1 hour at 37 °C 6. Aspirate and wash 5 times. 7. Add 90 µL of TMB Substrate to each well. Incubate for 20 minutes at 37 °C. Protect from light.

8. Add 50 µL Stop Solution to each well. Read at 450 nm within 5 minutes.

Reagent Preparation:

1. HRP-conjugate (1x) - Centrifuge the vial before opening. HRP-conjugate requires a 100-fold dilution. A suggested 100-fold dilution is 10 µL of HRP-conjugate + 990 µL of HRP-conjugate Diluent.
2. Wash Buffer(1x)- If crystals have formed in the concentrate, warm up to room temperature and mix gently until the crystals have completely dissolved. Dilute 20 mL of Wash Buffer Concentrate (25 x) into deionized or distilled water to prepare 500 mL of Wash Buffer (1 x).
3. Standard Centrifuge the standard vial at 6000-10000rpm for 30s. Reconstitute the Standard with 1.0 mL of Sample Diluent. Do not substitute other diluents. This reconstitution produces a stock solution of 10 µg/mL. Mix the standard to ensure complete reconstitution and allow the standard to sit for a minimum of 15 minutes with gentle agitation prior to making dilutions. Pipette 150 µL of Sample Diluent into each tube (S0-S6). Use the stock solution to produce a 2-fold dilution series (below). Mix each tube thoroughly before the next transfer. The undiluted Standard serves as the high standard (10 µg/mL). Sample Diluent serves as the zero standard (0 µg/mL).

Note:

- Kindly use graduated containers to prepare the reagent. Please don't prepare the reagent directly in the Diluent vials provided in the kit.
- Bring all reagents to room temperature (18-25 °C) before use for 30 min.
- Prepare fresh standard for each assay. Use within 4 hours and discard after use.
- Making serial dilution in the wells directly is not permitted.
- Please carefully reconstitute Standards according to the instruction, and avoid foaming and mix gently until the crystals have completely dissolved. To minimize imprecision caused by pipetting, use small volumes and ensure that pipettors are calibrated. It is recommended to suck more than 10 µL for once pipetting.
- Distilled water is recommended to be used to make the preparation for reagents. Contaminated water or container for reagent preparation will influence the detection result.

Sample Preparation:

- It is recommended to use fresh samples without long storage, otherwise protein degradation and denaturationmay occur in these samples, leading to false results. Samples should therefore be stored for a short periodat 2 - 8 °C or aliquoted at -20 °C (≤1 month) or -80 °C (≤ 3 months). Repeated freeze-thawcycles should be avoided. Prior to assay, the frozen samples should be slowly thawed and centrifuged toremove precipitates.
- If the sample type is not specified in the instructions, a preliminary test is necessary to determinecompatibility with the kit.
- If a lysis buffer is used to prepare tissue homogenates or cell culture supernatant, there is a possibilityof causing a deviation due to the introduced chemical substance.The recommended dilution factor is for reference only.
- Please estimate the concentration of the samples before performing the test. If the values are not in therange of the standard curve, the optimal sample dilution for the particular experiment has to be determined.Samples should then be diluted with PBS (pH =7.0-7.2).

Application Details

	Note: Recommend to dilute the serum or plasma samples with Sample Diluent(1:100) before test. The suggested 100-fold dilution can be achieved by adding 10 µL sample to 40 µL of Sample Diluent. Complete the 100-fold dilution by adding 15 µL of this solution to 285 µL of Sample Diluent. The recommended dilution factor is for reference only. The optimal dilution factor should be determined by users according to their particular experiments.
Assay Precision:	Intra-assay Precision (Precision within an assay): CV%<8% Three samples of known concentration were tested twenty times on one plate to assess. Inter-assay Precision (Precision between assays): CV%<10% Three samples of known concentration were tested in twenty assays to assess.
Restrictions:	For Research Use only

Handling

Storage:	4 °C,-20 °C
Storage Comment:	Unopened kit Store at 2 - 8°C. Do not use the kit beyond the expiration date. May be stored for up to 1 month at 2 - 8°C. Coated assay Try to keep it in a sealed aluminum foil bag, plate and avoid the damp. Standard May be stored for up to 1 month at 2 - 8° C. If don't make recent use, better keep it store at HRP-conjugate -20°C. Opened kit HRP-conjugate Diluent Sample Diluent May be stored for up to 1 month at 2 - 8°C. Wash Buffer TMB Substrate Stop Solution *Provided this is within the expiration date of the kit.
Expiry Date:	6 months

Publications

Product cited in:	Zuo, Yu, Wang, Hu, Piao, Du, Lian, Wang, Yu, Wang, Wang, Chan, Chen, Wang, Zhang: " Parkinson's Disease with Fatigue: Clinical Characteristics and Potential Mechanisms Relevant to α-Synuclein Oligomer." in: **Journal of clinical neurology (Seoul, Korea)**, Vol. 12, Issue 2, pp. 172-80, (2016) (PubMed). Krishnan, Rani: "Evaluation of selenium, redox status and their association with plasma amyloid/tau in Alzheimer's disease." in: **Biological trace element research**, Vol. 158, Issue 2, pp. 158-65, (2014) (PubMed). Apori, Brozynski, El-Sayed, Herr: "Microfluidic validation of diagnostic protein markers for

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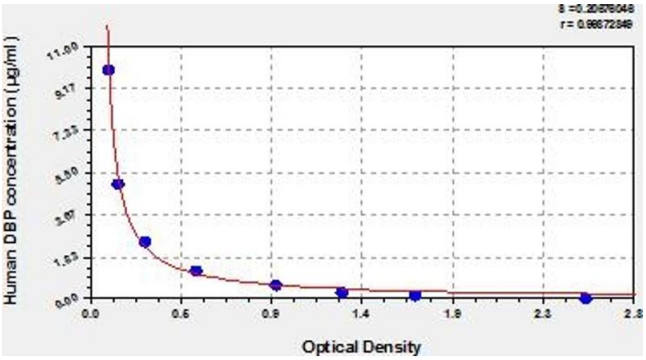
spontaneous cerebrospinal fluid rhinorrhea." in: **Journal of proteome research**, Vol. 12, Issue 3, pp. 1254-65, (2013) (PubMed).

van den Boogaard, Kox, Quinn, van Achterberg, van der Hoeven, Schoonhoven, Pickkers et al.: " Biomarkers associated with delirium in critically ill patients and their relation with long-term subjective cognitive dysfunction; indications for different pathways governing delirium in inflamed ..." in: **Critical care**, Vol. 15, Issue 6, pp. R297, (2012) (PubMed).

Images



ELISA

Image 1. Typical Standard Curve