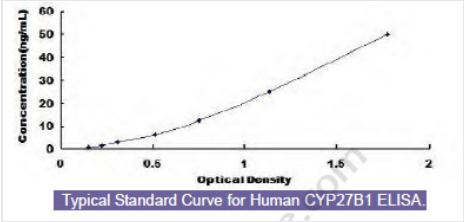
Cytochrome P450 27b1 (CYP27B1) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Cytochrome P450 27B1 (CYP27B1), ELISA Kit
Full Product Name	Human Cytochrome P450 27B1 (CYP27B1) ELISA Kit
Product Gene Name	CYP27B1 elisa kit
Product Synonym Names	VDD1, PDDR; CYP1, P450c1; 25-Hydroxyvitamin D3 1-Alpha-Hydroxylase; Cytochrome P450 Family 27 Subfamily B Polypeptide 1; Calcidiol 1-monooxygenase; VD3 1A hydroxylase
Species Reactivity	Human
Assay Type	Quantitative Sandwich
Samples	Tissue homogenates, cell lysates or other biological fluids
Detection Range	0.78-50ng/mL
Sensitivity	<0.29ng/mL.
Specificity	This assay has high sensitivity and excellent specificity for detection of CYP27B1. No significant cross-reactivity or interference between CYP27B1 and analogues was observed.
Inter-assay Precision	Inter-assay Precision (Precision between assays): 3 samples with low, middle and high level CYP27B1 were tested on 3 different plates, 8 replicates in each plate. CV(%) = SD/meanX100. Inter-Assay: CV<12%
Intra-assay Precision	Intra-assay Precision (Precision within an assay): 3 samples with low, middle and high level CYP27B1 were tested 20 times on one plate, respectively. Intra-Assay: CV<10%
Molecular Weight	56,504 Da
OMIM	AF027152 Genomic DNA
3D Structure	ModBase 3D Structure for O15528
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Related Product Information for CYP27B1 elisa kit	Intended Uses: The kit is a sandwich enzyme immunoassay for the in vitro quantitative measurement of CYP27B1 in human tissue homogenates, cell lysates or other biological fluids. Principle of the Assay: The microtiter plate provided in this kit has been pre-coated with an antibody specific to CYP27B1. Standards or samples are then added to the appropriate microtiter plate wells with a biotin-conjugated antibody preparation specific to CYP27B1. Next, Avidin conjugated to Horseradish Peroxidase (HRP) is added to each microplate well and incubated. After TMB substrate solution is added, only those wells that contain CYP27B1, biotin-conjugated antibody and enzyme-conjugated Avidin will exhibit a change in color. The enzyme-substrate reaction is terminated by the addition of sulphuric acid solution and the color change is measured spectrophotometrically at a wavelength of 450nm +/- 10nm. The concentration of CYP27B1 in the samples is then determined by comparing the O.D. of the samples to the standard curve.
Other Notes	Small volumes of CYP27B1 elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CYP27B1 purchase	MBS457012 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Cytochrome P450 27B1 (CYP27B1) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing CYP27B1. The ELISA analytical biochemical technique of the MBS457012 kit is based on CYP27B1 antibody-CYP27B1 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect CYP27B1 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, CYP27B1. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).



Typical Testing Data/Standard Curve (for reference only) of CYP27B1 elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CYP27B1. It may not necessarily be applicable to this product.

NCBI GI #	4503213
NCBI GeneID	1594
NCBI Accession #	NP_000776.1
UniProt Primary Accession #	O15528
UniProt Secondary Accession #	Q548T3; B2RC61
UniProt Related Accession #	O15528
GenBank Nucleotide #	NM_000785.3
NCBI Official Full Name	25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial
NCBI Official Synonym Full Names	cytochrome P450 family 27 subfamily B member 1
NCBI Official Symbol	CYP27B1
NCBI Official Synonym Symbols	VDR; CP2B; CYP1; PDDR; VDD1; VDDR; VDDRI; CYP27B; P450c1; CYP1alpha
UniProt Protein Name	25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial
UniProt Synonym Protein Names	25-OHD-1 alpha-hydroxylase; 25-hydroxyvitamin D(3) 1-alpha-hydroxylase; VD3 1A hydroxylase; Calcidiol 1-monooxygenase; Cytochrome P450 subfamily XXVIIB polypeptide 1; Cytochrome P450C1 alpha; Cytochrome P450VD1-alpha; Cytochrome p450 27B1
Protein Family	25-hydroxyvitamin D-1 alpha hydroxylase
UniProt Gene Name	CYP27B1
UniProt Synonym Gene Names	CYP1ALPHA; CYP27B; VD3 1A hydroxylase
NCBI Protein Information	25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial
NCBI Summary for CYP27B1	This gene encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. The protein encoded by this gene localizes to the inner mitochondrial membrane where it hydroxylates 25-hydroxyvitamin D3 at the 1alpha position. This reaction synthesizes 1alpha,25-dihydroxyvitamin D3, the active form of vitamin D3, which binds to the vitamin D receptor and regulates calcium metabolism. Thus this enzyme regulates the level of biologically active vitamin D and plays an important role in calcium homeostasis. Mutations in this gene can result in vitamin D-dependent rickets type I. [provided by RefSeq, Jul 2008]
UniProt Comments for CYP27B1	Catalyzes the conversion of 25-hydroxyvitamin D3 (25(OH)D3) to 1-alpha,25-dihydroxyvitamin D3 (1alpha,25(OH)2D3), and of 24,25-dihydroxyvitamin D3 (24,25(OH)2D3) to 1-alpha,24,25-trihydroxyvitamin D3 (1alpha,24,25(OH)3D3). Is also active with 25-hydroxy-24-oxo-vitamin D3. Plays an important role in normal bone growth, calcium metabolism, and tissue differentiation.
Research Articles on CYP27B1	**1.** primary human osteoblasts in the presence of high calcium concentrations increase their CYP27B1 mRNA levels by 1.3-fold

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