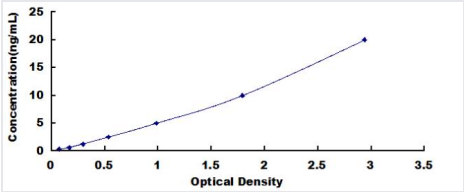
Calcium Channel, Voltage Dependent, L-Type, Alpha 1d Subunit () ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Calcium Channel, Voltage Dependent, L-Type, Alpha 1D Subunit (CACNa1D), ELISA Kit
Full Product Name	Human Calcium Channel, Voltage Dependent, L-Type, Alpha 1D Subunit (CACNa1D) ELISA Kit
Product Gene Name	CACNa1D elisa kit
Product Synonym Names	CACH3; CACN4; CACNL1A2; CCHL1A2; Cav1.3; Voltage-gated calcium channel subunit alpha Cav1.3; Calcium channel, L type, alpha-1 polypeptide, isoform 2
Species Reactivity	Human
Assay Type	Sandwich
Samples	Tissue Homogenates or Other Biological Fluids.
Detection Range	0.312-20ng/mL
Sensitivity	0.121ng/mL
Preparation and Storage	For unopened kits: All the reagents should be kept at 4 degree C upon receipt. For opened kits: Once the kit is opened, the remaining reagents still need to be stored according to the above storage conditions. In addition, return the unused wells to the foil pouch containing the desiccant pack and reseal along entire edge of zip-seal.
Molecular Weight	242,417 Da
OMIM	114206
3D Structure	ModBase 3D Structure for Q01668
RTU ELISA Kit's Advantage	The Ready-To-Use (RTU) Kits require fewer steps in setup and take less time to run. Detection Solutions are pre-diluted and total incubation time is shorter than many other ELISA Kits.
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Related Product Information for CACNa1D elisa kit	Test Principle: The microtiter plate provided in this kit has been pre-coated with an antibody specific to CACNa1D. Standards or samples are then added to the appropriate microtiter plate wells with a biotin-conjugated antibody preparation specific to CACNa1D. 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 CACNa1D, 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 CACNa1D in the samples is then determined by comparing the O.D. of the samples to the standard curve.
Other Notes	Small volumes of CACNa1D 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 CACNa1D purchase	MBS458070 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Calcium Channel, Voltage Dependent, L-Type, Alpha 1D Subunit (CACNa1D) 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 CACNa1D. The ELISA analytical biochemical technique of the MBS458070 kit is based on CACNa1D antibody-CACNa1D antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect CACNa1D antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, CACNa1D. 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 CACNa1D elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CACNa1D. It may not necessarily be applicable to this product.

NCBI GI #	4502527
NCBI GeneID	776
NCBI Accession #	NP_000711.1
UniProt Primary Accession #	Q01668
UniProt Secondary Accession #	Q13916; Q13931; Q71UT1; Q9UDC3; B0FYA3
UniProt Related Accession #	Q01668
GenBank Nucleotide #	NM_000720.3
NCBI Official Full Name	voltage-dependent L-type calcium channel subunit alpha-1D isoform a
NCBI Official Synonym Full Names	calcium voltage-gated channel subunit alpha1 D
NCBI Official Symbol	CACNA1D
NCBI Official Synonym Symbols	CACH3; CACN4; PASNA; SANDD; Cav1.3; CCHL1A2; CACNL1A2
UniProt Protein Name	Voltage-dependent L-type calcium channel subunit alpha-1D
UniProt Synonym Protein Names	Calcium channel, L type, alpha-1 polypeptide, isoform 2; Voltage-gated calcium channel subunit alpha Cav1.3
Protein Family	Voltage-dependent L-type calcium channel
UniProt Gene Name	CACNA1D
UniProt Synonym Gene Names	CACH3; CACN4; CACNL1A2; CCHL1A2
NCBI Protein Information	voltage-dependent L-type calcium channel subunit alpha-1D
NCBI Summary for CACNa1D	Voltage-dependent calcium channels mediate the entry of calcium ions into excitable cells, and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, and gene expression. Calcium channels are multisubunit complexes composed of alpha-1, beta, alpha-2/delta, and gamma subunits. The channel activity is directed by the pore-forming alpha-1 subunit, whereas the others act as auxiliary subunits regulating this activity. The distinctive properties of the calcium channel types are related primarily to the expression of a variety of alpha-1 isoforms, namely alpha-1A, B, C, D, E, and S. This gene encodes the alpha-1D subunit. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Dec 2012]
UniProt Comments for CACNa1D	Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. The isoform alpha-1D gives rise to L-type calcium currents. Long-lasting (L-type) calcium channels belong to the 'high-voltage activated' (HVA) group. They are blocked by dihydropyridines (DHP), phenylalkylamines, benzothiazepines, and by omega-agatoxin-IIIA (omega-Aga-IIIA). They are however insensitive to omega-conotoxin-GVIA (omega-CTx-GVIA) and omega-agatoxin-IVA (omega-Aga-IVA).
Research Articles on CACNa1D	**1.** Study have showned a significant effect of the autism-associated mutation A760G on the gating of CaV1.3 such that channel activation is significantly left-shifted, Ca(2+)-dependent inactivation is decreased, and deactivation is slowed, resulting in excess Ca2+ entry. However, these effects are mitigated by an increase in voltage-dependent inactivation. Also, A760G mutation differentially affects CaV1.3 splice variants.

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