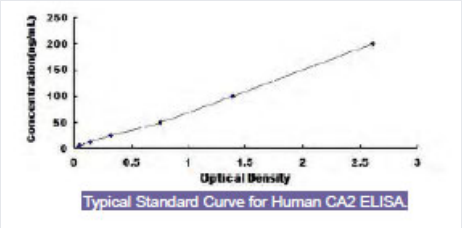
Carbonic Anhydrase II (CA2) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Carbonic Anhydrase II (CA2), ELISA Kit
Full Product Name	Human Carbonic Anhydrase II (CA2) ELISA Kit
Product Gene Name	CA2 elisa kit
Product Synonym Names	CA-II; CAII; Car2; CAC; Carbonate dehydratase II; Carbonic anhydrase C
Species Reactivity	Human
Assay Type	Quantitative Sandwich
Samples	Serum, plasma, tissue homogenates, cell lysates, cell culture supernates or other biological fluids
Detection Range	3.12-200ng/mL
Sensitivity	< 1.34ng/mL
Specificity	This assay has high sensitivity and excellent specificity for detection of CA2. No significant cross-reactivity or interference between CA2 and analogues was observed.
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.
Inter-assay Precision	Inter-assay Precision (Precision between assays): 3 samples with low, middle and high level CA2 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 CA2 were tested 20 times on one plate, respectively. Intra-Assay: CV<10%
Molecular Weight	29,246 Da
OMIM	259730
3D Structure	ModBase 3D Structure for P00918
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Related Product Information for CA2 elisa kit	Intended Uses: The kit is a sandwich enzyme immunoassay for the in vitro quantitative measurement of CA2 in human serum, plasma, tissue homogenates, cell lysates, cell culture supernates or other biological fluids. Principle of the Assay: The microtiter plate provided in this kit has been pre-coated with an antibody specific to CA2. Standards or samples are then added to the appropriate microtiter plate wells with a biotin-conjugated antibody preparation specific to CA2. 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 CA2, 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 CA2 in the samples is then determined by comparing the O.D. of the samples to the standard curve.
Other Notes	Small volumes of CA2 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 CA2 purchase	MBS458056 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Carbonic Anhydrase II (CA2) 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 CA2. The ELISA analytical biochemical technique of the MBS458056 kit is based on CA2 antibody-CA2 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect CA2 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, CA2. 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 CA2 elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CA2. It may not necessarily be applicable to this product.

NCBI GI #	4557395
NCBI GeneID	760
NCBI Accession #	NP_000058.1
UniProt Primary Accession #	P00918
UniProt Secondary Accession #	Q6FI12; Q96ET9; B2R7G8
UniProt Related Accession #	P00918
GenBank Nucleotide #	NM_000067.2
NCBI Official Full Name	carbonic anhydrase 2 isoform 1
NCBI Official Synonym Full Names	carbonic anhydrase 2
NCBI Official Symbol	CA2
NCBI Official Synonym Symbols	CAC; CAII; Car2; CA-II; HEL-76; HEL-S-282
UniProt Protein Name	Carbonic anhydrase 2
UniProt Synonym Protein Names	Carbonate dehydratase II; Carbonic anhydrase C; CAC; Carbonic anhydrase II; CA-II
Protein Family	Beta-carotene hydroxylase
UniProt Gene Name	CA2
UniProt Synonym Gene Names	CAC; CA-II
NCBI Protein Information	carbonic anhydrase 2
NCBI Summary for CA2	The protein encoded by this gene is one of several isozymes of carbonic anhydrase, which catalyzes reversible hydration of carbon dioxide. Defects in this enzyme are associated with osteopetrosis and renal tubular acidosis. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jun 2014]
UniProt Comments for CA2	Essential for bone resorption and osteoclast differentiation (). Reversible hydration of carbon dioxide. Can hydrate cyanamide to urea. Involved in the regulation of fluid secretion into the anterior chamber of the eye. Contributes to intracellular pH regulation in the duodenal upper villous epithelium during proton-coupled peptide absorption. Stimulates the chloride-bicarbonate exchange activity of SLC26A6.
Research Articles on CA2	**1.** Study presented a detailed analysis of how protein dynamics (specifically the motions of nonreactive residues in the active site and coupled solvent dynamics) influence the rate limiting proton transfer/transport event in HCA II.

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