CA4 Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	CA4, Lysate
Full Product Name	Human CA4 Protein Lysate
Product Gene Name	CA4 lysate
Product Synonym Names	CA4; CAIV; Car4; RP17
Host	Human
Form/Format	Lyophilized
Preparation and Storage	Store at -20 degree C Once reconsituted, aliquot and store any remaining material at-20 degree C to avoid repeated freeze-thaw cycles.
Molecular Weight	34kDa
OMIM	gene 600852
3D Structure	ModBase 3D Structure for P22748
Related Product Information for CA4 lysate	Human CA4 Protein Lysate 20ug is provided as a Lyophilized powder. This is a Recombinant Protein Lysate produced in HEK293T cells. This protein lysate can be reconsituted using SDS Sample Buffer.
Other Notes	Small volumes of CA4 lysate 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 CA4 purchase	MBS138535 is a lysate targeting CA4. Also known as Human CA4 Protein Lysate. Host: Human.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CA4. It may not necessarily be applicable to this product.

NCBI GI #	4502519
NCBI GeneID	762
NCBI Accession #	NP_000708
UniProt Primary Accession #	P22748
UniProt Related Accession #	P22748
GenBank Nucleotide #	NM_000717
NCBI Official Full Name	carbonic anhydrase 4 preproprotein
NCBI Official Synonym Full Names	carbonic anhydrase 4
NCBI Official Symbol	CA4
NCBI Official Synonym Symbols	CAIV; Car4; RP17
UniProt Protein Name	Carbonic anhydrase 4
UniProt Synonym Protein Names	Carbonate dehydratase IV; Carbonic anhydrase IV; CA-IV
Protein Family	Carbonic anhydrase

UniProt Gene Name	CA4
UniProt Synonym Gene Names	CA-IV
UniProt Entry Name	CAH4_HUMAN
NCBI Protein Information	carbonic anhydrase 4
NCBI Summary for CA4	Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. They show extensive diversity in tissue distribution and in their subcellular localization. This gene encodes a glycosylphosphatidyl-inositol-anchored membrane isozyme expressed on the luminal surfaces of pulmonary (and certain other) capillaries and proximal renal tubules. Its exact function is not known; however, it may have a role in inherited renal abnormalities of bicarbonate transport. [provided by RefSeq, Jul 2008]
UniProt Comments for CA4	CA4: Reversible hydration of carbon dioxide. May stimulate the sodium/bicarbonate transporter activity of SLC4A4 that acts in pH homeostasis. It is essential for acid overload removal from the retina and retina epithelium, and acid release in the choriocapillaris in the choroid. Defects in CA4 are the cause of retinitis pigmentosa type 17 (RP17). RP leads to degeneration of retinal photoreceptor cells. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well. RP17 inheritance is autosomal dominant. Defective acid overload removal from retina and retinal epithelium, due to mutant CA4, is responsible for photoreceptor degeneration, indicating that impaired pH homeostasis is the most likely cause underlying the RP17 phenotype. Belongs to the alpha-carbonic anhydrase family. Protein type: Lyase; Energy Metabolism - nitrogen; Membrane protein, GPI anchor; EC 4.2.1.1 Chromosomal Location of Human Ortholog: 17q23 Cellular Component: Golgi apparatus; cell surface; sarcoplasmic reticulum; rough endoplasmic reticulum; basolateral plasma membrane; brush border membrane; secretory granule membrane; ER-Golgi intermediate compartment; trans-Golgi network; anchored to external side of plasma membrane; membrane; perinuclear region of cytoplasm; apical plasma membrane; plasma membrane; sarcolemma Molecular Function: carbonate dehydratase activity; protein binding; zinc ion binding Biological Process: response to drug; response to steroid hormone stimulus; bicarbonate transport; organ development; one-carbon compound metabolic process Disease: Retinitis Pigmentosa 17
Research Articles on CA4	**1.** CA4 is a novel tumour suppressor in Colorectal cancer through the inhibition of the Wnt signalling pathway by targeting the WTAP-WT1-TBL1 axis. CA4 methylation may serve as an independent biomarker for the recurrence of Colorectal cancer .
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