Datasheet for ABIN7549399

MMACHC Protein (AA 1-282) (His tag)

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Overview

Quantity:	1 mg
Target:	MMACHC
Protein Characteristics:	AA 1-282
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MMACHC protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant MMACHC Protein expressed in mammalian cells.
Sequence:	MEPKVAELKQ KIEDTLCPFG FEVYPFQVAW YNELLPPAFH LPLPGPTLAF LVLSTPAMFD RALKPFLQSC HLRMLTDPVD QCVAYHLGRV RESLPELQIE IIADYEVHPN RRPKILAQTA AHVAGAAYYY QRQDVEADPW GNQRISGVCI HPRFGGWFAI RGVVLLPGIE VPDLPPRKPH DCVPTRADRI ALLEGFNFHW RDWTYRDAVT PQERYSEEQK AYFSTPPAQR LALLGLAQPS EKPSSPSPDL PFTTPAPKKP GNPSRARSWL SPRVSPPASP GP **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.
Characteristics:	Key Benefits:

Product Details

	• Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalian cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	MMACHC
Alternative Name:	MMACHC (MMACHC Products)
Background:	Cyanocobalamin reductase / alkylcobalamin dealkylase (Alkylcobalamin:glutathione S-alkyltransferase) (EC 2.5.1.151) (CblC) (Cyanocobalamin reductase (cyanide-eliminating)) (EC 1.16.1.6) (Methylmalonic aciduria and homocystinuria type C protein) (MMACHC),FUNCTION: Cobalamin (vitamin B12) cytosolic chaperone that catalyzes the reductive decyanation of cyanocob(III)alamin (cyanocobalamin, CNCbl) to yield cob(II)alamin and cyanide, using FAD or FMN as cofactors and NADPH as cosubstrate (PubMed:18779575, PubMed:19700356, PubMed:21697092, PubMed:25809485). Cyanocobalamin constitutes the inactive form of vitamin B12 introduced from the diet, and is converted into the active cofactors methylcobalamin (MeCbl) involved in methionine biosynthesis, and 5'-deoxyadenosylcobalamin (AdoCbl) involved in the TCA cycle (PubMed:19801555). Forms a complex with the lysosomal transporter ABCD4 and its chaperone LMBRD1, to transport cobalamin across the lysosomal membrane into the cytosol (PubMed:25535791). The processing of cobalamin in the cytosol occurs in a multiprotein complex composed of at least MMACHC, MMADHC, MTRR (methionine synthase reductase) and MTR (methionine synthase) which may contribute to

Target Details

	shuttle safely and efficiently cobalamin towards MTR in order to produce methionine (PubMed:21071249, PubMed:27771510). Also acts as a glutathione transferase by catalyzing the dealkylation of the alkylcob(III)alamins MeCbl and AdoCbl, using the thiolate of glutathione for nucleophilic displacement to generate cob(I)alamin and the corresponding glutathione thioether (PubMed:19801555, PubMed:21697092, PubMed:22642810, PubMed:25809485). The conversion of incoming MeCbl or AdoCbl into a common intermediate cob(I)alamin is necessary to meet the cellular needs for both cofactors (PubMed:19801555). Cysteine and homocysteine cannot substitute for glutathione in this reaction (PubMed:19801555). {ECO:0000269|PubMed:18779575, ECO:0000269|PubMed:19700356, ECO:0000269|PubMed:19801555, ECO:0000269|PubMed:21071249, ECO:0000269|PubMed:21697092, ECO:0000269|PubMed:22642810, ECO:0000269|PubMed:25809485, ECO:0000269|PubMed:27771510, ECO:0000303|PubMed:19801555, ECO:0000303|PubMed:25535791}.
Molecular Weight:	31.7 kDa
UniProt:	Q9Y4U1

Application Details

Application Notes:	We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

