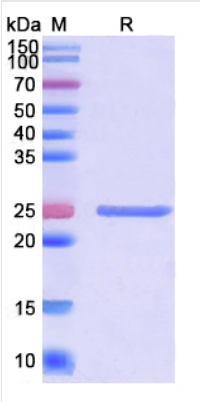
BCO1 Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	BCO1, Recombinant Protein
Full Product Name	Recombinant Human BCO1, N-His
Product Gene Name	BCO1 recombinant protein
Product Synonym Names	BCMO1; Beta; beta-carotene 15; 15'-dioxygenase; BCDO; BCO1; Beta-carotene oxygenase 1; BCDO1; Beta-carotene dioxygenase 1
Host	E coli
Form/Format	Lyophilized from a solution in PBS pH7.4, 0.02% NLS, 1mM EDTA, 4% Trehalose, 1% Mannitol.
Purity/Purification	>90% as determined by SDS-PAGE
Preparation and Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 degree C for one week. Store at -20 to -80 degree C for twelve months from the date of receipt.
Molecular Weight	62,637 Da
Sequence Positions	Gly6-Pro206
OMIM	115300
3D Structure	ModBase 3D Structure for Q9HAY6
Species	Human
Reconstitution	Reconstitute in sterile water for a stock solution.
Product Categories/Family for BCO1 recombinant protein	Recombinant Proteins
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for BCO1 recombinant protein	SDS-PAGE (SDS), Western Blot (WB), ELISA (EIA), Immunogen
Related Product Information for BCO1 recombinant protein	MBS1575695 is a recombinant protein targeting BCO1. Also known as Recombinant Human BCO1, N-His. Host: E coli.
Other Notes	Small volumes of BCO1 recombinant protein 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.



SDS-Page of BCO1 recombinant protein
SDS PAGE for recombinant Human BCO1 protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for BCO1. It may not necessarily be applicable to this product.

NCBI GI #	74027270
NCBI GeneID	53630
NCBI Accession #	NP_059125.2
UniProt Primary Accession #	Q9HAY6
UniProt Secondary Accession #	Q9NVH5; A0AV48; A0AV50
UniProt Related Accession #	Q9HAY6
GenBank Nucleotide #	NM_017429.2
NCBI Official Full Name	beta,beta-carotene 15,15'-monooxygenase
NCBI Official Synonym Full Names	beta-carotene oxygenase 1
NCBI Official Symbol	BCO1
NCBI Official Synonym Symbols	BCO; BCDO; BCMO; BCDO1; BCMO1
UniProt Protein Name	Beta,beta-carotene 15,15'-monooxygenase
UniProt Synonym Protein Names	Beta-carotene dioxygenase 1
Protein Family	Beta,beta-carotene 15,15'-dioxygenase
UniProt Gene Name	BCMO1
UniProt Synonym Gene Names	BCDO; BCDO1
UniProt Entry Name	BCDO1_HUMAN
NCBI Protein Information	beta,beta-carotene 15,15'-monooxygenase; beta-carotene dioxygenase 1; beta-carotene 15, 15'-dioxygenase 1; beta-carotene 15,15'-monooxygenase 1
NCBI Summary for BCO1	Vitamin A metabolism is important for vital processes such as vision, embryonic development, cell differentiation, and membrane and skin protection. The protein encoded by this gene is a key enzyme in beta-carotene metabolism to vitamin A. It catalyzes the oxidative cleavage of beta,beta-carotene into two retinal molecules. [provided by RefSeq, Jul 2008]

UniProt Comments for BCO1	BCMO1: Symmetrically cleaves beta-carotene into two molecules of retinal. The reaction proceeds in three stages, epoxidation of the 15,15'-double bond, hydration of the double bond leading to ring opening, and oxidative cleavage of the diol formed. Defects in BCMO1 are the cause of autosomal dominant hypercarotenemia and vitamin A deficiency (ADHVAD). Vitamin A is essential for normal embryonic development as well as normal physiological functions in children and adults. Hypercarotenemia is characterized by an excess carotene in the serum, but unlike excess vitamin A, carotene is non-toxic. So far, only a few cases of excess vitamin A have been reported. Individuals were thought to be vitamin A deficient due to an impairment in the conversion of carotenoids to retinal in the intestine. Belongs to the carotenoid oxygenase family. Protein type: Cofactor and Vitamin Metabolism - retinol; EC 1.14.99.36; Oxidoreductase Chromosomal Location of Human Ortholog: 16q23.2 Cellular Component: cytosol Molecular Function: beta-carotene 15,15'-monooxygenase activity; metal ion binding; monooxygenase activity Biological Process: phototransduction, visible light; vitamin A biosynthetic process; retinal metabolic process; retinol metabolic process; retinoid metabolic process Disease: Hypercarotenemia And Vitamin A Deficiency, Autosomal Dominant
Research Articles on BCO1	**1.** Together with the data from (18)O-retinal-H2(16)O and (16)O-retinal-H2(18)O incubations to account for nonenzymatic oxygen exchange, our results show that BCO1 incorporates only oxygen from O2 into retinal. Thus, BCO1 is a dioxygenase.
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