Zo-2 Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	ZO-2, Blocking Peptide
Full Product Name	ZO-2 Blocking Peptide
Product Gene Name	ZO-2 blocking peptide
Product Synonym Gene Name	TJP2
Product Synonym Names	C9DUPq21.11; DFNA51; DUP9q21.11; Friedreich ataxia region gene X104 (tight junction protein ZO-2); MGC26306; PFIC4; Tight junction protein 2; Tight junction protein ZO 2; Tight junction protein ZO-2; TJP2; X104; ZO 2; ZO-2; ZO2; ZO2_HUMAN; Zona occludens 2; Zona occludens protein 2; Zonula occludens protein 2
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml.
Purity/Purification	The purity is >90%,tested by HPLC and MS.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	ZO-2 peptide (MBS9627661) is used for blocking the activity of ZO-2 antibody (MBS9608949)
Molecular Weight	137,342 Da
OMIM	607709
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Notes	For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for ZO-2 blocking peptide	Blocking/Control
Related Product Information for ZO-2 blocking peptide	Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody.
Other Notes	Small volumes of ZO-2 blocking peptide 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 ZO-2 purchase	MBS9627661 is a blocking peptide targeting ZO-2.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ZO-2. It may not necessarily be applicable to this product.

NCBI GI #	282165804
NCBI GeneID	9414
NCBI Accession #	NP_001163886.1
UniProt Primary Accession #	Q9UDY2

UniProt Secondary Accession #	Q15883; Q5VXL0; Q5VXL1; Q8N756; Q8NI14; Q99839; A2A3H9; B7Z2R8; B7Z7T6; F5H301; F5H886
UniProt Related Accession #	Q9UDY2
GenBank Nucleotide #	NM_001170415.1
NCBI Official Full Name	tight junction protein ZO-2 isoform 4
NCBI Official Synonym Full Names	tight junction protein 2
NCBI Official Symbol	TJP2
NCBI Official Synonym Symbols	ZO2; X104; PFIC4; DFNA51; DUP9q21.11; C9DUPq21.11
UniProt Protein Name	Tight junction protein ZO-2
UniProt Synonym Protein Names	Tight junction protein 2; Zona occludens protein 2; Zonula occludens protein 2
UniProt Gene Name	TJP2
UniProt Synonym Gene Names	X104; ZO2
UniProt Entry Name	ZO2_HUMAN
NCBI Protein Information	tight junction protein ZO-2
NCBI Summary for ZO-2	This gene encodes a zonula occluden that is a member of the membrane-associated guanylate kinase homolog family. The encoded protein functions as a component of the tight junction barrier in epithelial and endothelial cells and is necessary for proper assembly of tight junctions. Mutations in this gene have been identified in patients with hypercholanemia, and genomic duplication of a 270 kb region including this gene causes autosomal dominant deafness-51. Alternatively spliced transcripts encoding multiple isoforms have been observed for this gene. [provided by RefSeq, Nov 2011]
UniProt Comments for ZO-2	ZO2: a scaffolding protein of the MAGUK (membrane-associated guanylate kinase) family associated with epithelial tight junctions (TJ). May mediate dynamic changes in the composition of TJs. Plays a role in tight junctions and adherens junctions. Forms homodimers, and heterodimer with ZO-1 and ZO-3. The ZOs shuttle between the TJ and the nucleus, where they may regulate gene expression. Interacts with occluding, UBN1 and scribble. Interacts with SAFB in the nucleus. TJ, or zonula occludens, are the closely associated areas of two cells whose membranes are tightly joined together. They are composed of a branching network of strands, the efficiency of which increases exponentially with the number of strands. The strands associate with transmembrane proteins that bind to similar proteins on adjacent cells, and with submembranous proteins that are anchored to the actin component of the cytoskeleton. Thus, TJs join together the cytoskeletons of adjacent cells. They endow tissues with substantial form, shape and location, enforce cellular polarity, and form barriers to molecules and pathogens. Molecules forming the membranous part of TJs include occludin, claudins, tricellulin and junctional adhesion molecules. These molecules interact with the proteins ZO-1, ZO-2 and ZO-3. Tight junction proteins are involved in the epithelial-mesenchymal transitions (EMT) in tumors. Five isoforms of the human protein are produced by alternative promoters. Isoform A1 is abundant in the heart and brain. Detected in brain and skeletal muscle. It is present almost exclusively in normal tissues. Isoform C1 is expressed at high level in the kidney, pancreas, heart and placenta. Not detected in brain and skeletal muscle. Found in normal as well as in most neoplastic tissues.. Protein type: Motility/polarity/chemotaxis; Adaptor/scaffold Chromosomal Location of Human Ortholog: 9q13-q21 Cellular Component: nucleoplasm; tight junction; adherens junction; cytoplasm; plasma membrane; cell junction; cytosol Molecular Function: protein binding, bridging; protein C-terminus binding; protein domain specific binding; guanylate kinase activity; protein binding Biological Process: response to organic substance; apoptosis; cell structure disassembly during apoptosis; nucleotide phosphorylation; intestinal absorption Disease: Hypercholanemia, Familial; Cholestasis, Progressive Familial Intrahepatic, 4
Research Articles on ZO-2	**1.** Data identified two Disease-causing Genes TJP2 and GJB2 in a Chinese Family with Unconditional Autosomal Dominant Nonsyndromic Hereditary Hearing Impairment.

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