DACT1 Antibody (N-Term) Blocking Peptide

PRODUCT OVERVIEW

Product Name	DACT1, Blocking Peptide
Full Product Name	DACT1 Antibody (N-term) Blocking peptide
Product Gene Name	DACT1 blocking peptide
Product Synonym Gene Name	DPR1; HNG3
Product Synonym Names	Dapper homolog 1; hDPR1; Dapper antagonist of catenin 1; Hepatocellular carcinoma novel gene 3 protein; DACT1; DPR1; HNG3
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 1 mg/ml.
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	DACT1 peptide (MBS9225850) is used for blocking the activity of DACT1 antibody (MBS9213602)
Molecular Weight	86,212 Da
OMIM	182940
Cellular Location	Cytoplasm. Nucleus. Cell junction, synapse. Note: Shuttles between the nucleus and the cytoplasm. Seems to be nuclear in the absence of Wnt signaling and to translocate to the cytoplasm in its presence
Related Product Information for DACT1 blocking peptide	Involved in regulation of intracellular signaling pathways during development. Specifically thought to play a role in canonical and/or non-canonical Wnt signaling pathways through interaction with DSH (Dishevelled) family proteins. The activation/inhibition of Wnt signaling may depend on the phosphorylation status. Proposed to regulate the degradation of CTNNB1/beta-catenin, thereby modulating the transcriptional activation of target genes of the Wnt signaling pathway. Its function in stabilizing CTNNB1 may involve inhibition of GSK3B activity. Promotes the membrane localization of CTNNB1. The cytoplasmic form can induce DVL2 degradation via a lysosome- dependent mechanism; the function is inhibited by PKA-induced binding to 14-3-3 proteins, such as YWHAB. Seems to be involved in morphogenesis at the primitive streak by regulating VANGL2 and DVL2; the function seems to be independent of canonical Wnt signaling and rather involves the non-canonical Wnt/planar cell polarity (PCP) pathway (By similarity). The nuclear form may prevent the formation of LEF1:CTNNB1 complex and recruit HDAC1 to LEF1 at target gene promoters to repress transcription thus antagonizing Wnt signaling. May be involved in positive regulation of fat cell differentiation. During neuronal differentiation may be involved in excitatory synapse organization, and dendrite formation and establishment of spines.
Other Notes	Small volumes of DACT1 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 DACT1 purchase	MBS9225850 is a blocking peptide targeting DACT1. Also known as DACT1 Antibody (N-term) Blocking peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for DACT1. It may not necessarily be applicable to this product.

NCBI GI #	24158478
NCBI GeneID	51339
NCBI Accession #	NP_057735.2
UniProt Primary Accession #	Q9NYF0
UniProt Secondary Accession #	Q86TY0; A8MYJ2

UniProt Related Accession #	Q9NYF0
GenBank Nucleotide #	NM_016651.5
NCBI Official Full Name	dapper homolog 1 isoform 1
NCBI Official Synonym Full Names	dishevelled binding antagonist of beta catenin 1
NCBI Official Symbol	DACT1
NCBI Official Synonym Symbols	DPR1; FRODO; HDPR1; DAPPER; THYEX3; DAPPER1
UniProt Protein Name	Dapper homolog 1
UniProt Synonym Protein Names	Dapper antagonist of catenin 1; Hepatocellular carcinoma novel gene 3 protein
Protein Family	Dapper
UniProt Gene Name	DACT1
UniProt Synonym Gene Names	DPR1; HNG3; hDPR1
UniProt Entry Name	DACT1_HUMAN
NCBI Protein Information	dapper homolog 1
NCBI Summary for DACT1	The protein encoded by this gene belongs to the dapper family, characterized by the presence of PDZ-binding motif at the C-terminus. It interacts with, and positively regulates dishevelled-mediated signaling pathways during development. Depletion of this mRNA from xenopus embryos resulted in loss of notochord and head structures, and mice lacking this gene died shortly after birth from severe posterior malformations. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jan 2012]
UniProt Comments for DACT1	DACT1: Positively regulates DVL2-mediated signaling pathways during development. Binds to DVL2 and impedes the degradation of CTNNB1/beta-catenin, thereby enhancing the transcriptional activation of target genes of the Wnt signaling pathway. Interacts with DVL1 and DVL2. Belongs to the dapper family. Protein type: Adaptor/scaffold Chromosomal Location of Human Ortholog: 14q23.1 Cellular Component: beta-catenin destruction complex; cytoplasm; cytosol; nucleoplasm; nucleus Molecular Function: beta-catenin binding; histone deacetylase binding; protein binding; protein kinase A binding; protein kinase C binding Biological Process: embryonic hindgut morphogenesis; negative regulation of JNK cascade; negative regulation of protein binding; negative regulation of transcription from RNA polymerase II promoter; negative regulation of Wnt receptor signaling pathway; neural tube development; positive regulation of protein binding; positive regulation of protein catabolic process; positive regulation of Wnt receptor signaling pathway; regulation of protein stability
Research Articles on DACT1	**1.** Dact1 has a critical role in the ability support keratinocyte proliferation, by attenuating Wnt/beta catenin signaling.
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