PLEC Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	PLEC, Polyclonal Antibody
Full Product Name	PLEC Antibody
Product Gene Name	anti-PLEC antibody
Product Synonym Names	HD1; PCN; EBS1; EBSO; PLTN; PLEC1; LGMD2Q; PLEC1b
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Rabbit IgG in pH7.4 PBS, 0.05% NaN3, 40% Glycerol.
Purity/Purification	Antigen affinity purification.
Specificity	The antibody detects endogenous levels of total PLEC protein.
Preparation and Storage	Store at 4 degree C short term. Aliquot and store at -20 degree C long term. Avoid freeze/thaw cycles.
Molecular Weight	514,775 Da
OMIM	131950
3D Structure	ModBase 3D Structure for Q15149
Immunogen	Synthetic peptide corresponding to a region derived from internal residues of human plectin
Product Categories/Family for anti-PLEC antibody	Primary Antibody
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-PLEC antibody	Immunohistochemistry (IHC)
Application Notes for anti-PLEC antibody	IHC: 1:50-1:200
Related Product Information for anti-PLEC antibody	Plectin is a prominent member of an important family of structurally and in part functionally related proteins, termed plakins or cytolinkers, that are capable of interlinking different elements of the cytoskeleton. Plakins, with their multi-domain structure and enormous size, not only play crucial roles in maintaining cell and tissue integrity and orchestrating dynamic changes in cytoarchitecture and cell shape, but also serve as scaffolding platforms for the assembly, positioning, and regulation of signaling complexes
Other Notes	Small volumes of anti-PLEC antibody 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 PLEC purchase	MBS8591173 is an antibody targeting PLEC. Also known as PLEC Antibody. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

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

NCBI GI #	47607492

NCBI GeneID	5339
NCBI Accession #	NP_000436.2
UniProt Primary Accession #	Q15149
UniProt Secondary Accession #	Q15148; Q16640; Q6S376; Q6S377; Q6S378; Q6S379; Q6S380; Q6S381; Q6S382; Q6S383
UniProt Related Accession #	Q15149
GenBank Nucleotide #	NM_000445.4
NCBI Official Full Name	plectin isoform 1c
NCBI Official Synonym Full Names	plectin
NCBI Official Symbol	PLEC
NCBI Official Synonym Symbols	HD1; PCN; EBS1; EBSO; PLTN; EBSMD; EBSND; EBSOG; EBSPA; PLEC1; LGMD2Q; PLEC1b
UniProt Protein Name	Plectin
UniProt Synonym Protein Names	Hemidesmosomal protein 1; HD1; Plectin-1
Protein Family	Non-motile and phage-resistance protein
UniProt Gene Name	PLEC
UniProt Synonym Gene Names	PLEC1; PCN; PLTN; HD1
UniProt Entry Name	PLEC_HUMAN
NCBI Protein Information	plectin
NCBI Summary for PLEC	Plectin is a prominent member of an important family of structurally and in part functionally related proteins, termed plakins or cytolinkers, that are capable of interlinking different elements of the cytoskeleton. Plakins, with their multi-domain structure and enormous size, not only play crucial roles in maintaining cell and tissue integrity and orchestrating dynamic changes in cytoarchitecture and cell shape, but also serve as scaffolding platforms for the assembly, positioning, and regulation of signaling complexes (reviewed in PMID: 9701547, 11854008, and 17499243). Plectin is expressed as several protein isoforms in a wide range of cell types and tissues from a single gene located on chromosome 8 in humans (PMID: 8633055, 8698233). Until 2010, this locus was named plectin 1 (symbol PLEC1 in human; Plec1 in mouse and rat) and the gene product had been referred to as "hemidesmosomal protein 1" or "plectin 1, intermediate filament binding 500kDa". These names were superseded by plectin. The plectin gene locus in mouse on chromosome 15 has been analyzed in detail (PMID: 10556294, 14559777), revealing a genomic exon-intron organization with well over 40 exons spanning over 62 kb and an unusual 5' transcript complexity of plectin isoforms. Eleven exons (1-1j) have been identified that alternatively splice directly into a common exon 2 which is the first exon to encode plectin's highly conserved actin binding domain (ABD). Three additional exons (-1, 0a, and 0) splice into an alternative first coding exon (1c), and two additional exons (2alpha and 3alpha) are optionally spliced within the exons encoding the acting binding domain (exons 2-8). Analysis of the human locus has identified eight of the eleven alternative 5' exons found in mouse and rat (PMID: 14672974); exons 1i, 1j and 1h have not been confirmed in human. Furthermore, isoforms lacking the central rod domain encoded by exon 31 have been detected in mouse (PMID:10556294), rat (PMID: 9177781), and human (PMID: 11441066, 10780662, 20052759). The short alternative amino-terminal sequences encoded by the different first exons direct the targeting of the various isoforms to distinct subcellular locations (PMID: 14559777). As the expression of specific plectin isoforms was found to be dependent on cell type (tissue) and stage of development (PMID: 10556294, 12542521, 17389230) it appears that each cell type (tissue) contains a unique set (proportion and composition) of plectin isoforms, as if custom-made for specific requirements of the particular cells. Concordantly, individual isoforms were found to carry out distinct and specific functions (PMID: 14559777, 12542521, 18541706). In 1996, a number of groups reported that patients suffering from epidermolysis bullosa simplex with muscular dystrophy (EBS-MD) lacked plectin expression in skin and muscle tissues due to defects in the plectin gene (PMID: 8698233, 8941634, 8636409, 8894687, 8696340). Two other subtypes of plectin-related EBS have been described: EBS-pyloric atresia (PA) and EBS-Ogna. For reviews of plectin-related diseases see PMID: 15810881, 19945614. Mutations in the plectin gene related to human diseases should be named based on the position in NM_000445 (variant 1, isoform 1c), unless the mutation is located within one of the other alternative first exons, in which case the position in the respective Reference Sequence should be used. [provided by RefSeq, Aug 2011]

UniProt Comments for PLEC	Plectin-1: a major cytoskeleton crosslinking protein that binds to actin, intermediate filaments and microtubules. A scaffold for proteins involved in cellular signaling. Interlinks intermediate filaments with microtubules and microfilaments and anchors intermediate filaments to desmosomes or hemidesmosomes. Could also bind muscle proteins such as actin to membrane complexes in muscle. May be involved not only in the cross-linking and stabilization of cytoskeletal intermediate filaments network, but also in the regulation of their dynamics. Regulates the organization of keratin intermediate filaments (IF) and MAPK signaling during cell migration. Downregulates PKC signaling by sequestering RACK1. Redistributes to the uropod associated with vimentin and fodrin during polarization of peripheral blood T lymphocytes. This vimentin-plectin-fodrin complex provides a continuous linkage from the nucleus (lamin B) to the cortical cytoskeleton. Defects in PLEC1 are the cause of epidermolysis bullosa simplex 1 (EBS1). Three alternatively spliced isoforms have been described. Protein type: Cytoskeletal; Motility/polarity/chemotaxis Chromosomal Location of Human Ortholog: 8q24 Cellular Component: brush border; costamere; cytoplasm; cytosol; focal adhesion; hemidesmosome; intermediate filament cytoskeleton; plasma membrane; sarcolemma; sarcoplasm Molecular Function: actin binding; ankyrin binding; protein binding; structural constituent of muscle Biological Process: hemidesmosome assembly
Research Articles on PLEC	**1.** The dominant expression of the P1a isoform in epidermal basal cell layer and cultured keratinocytes suggests that mutations in the first exon of isoform 1a cause skin-only epidermolysis bullosa simplex without extracutaneous involvement.
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