

## Datasheet

### PLEC1 monoclonal antibody (M02), clone 4D12

**Catalog Number:** H00005339-M02

**Regulatory Status:** For research use only (RUO)

**Product Description:** Mouse monoclonal antibody raised against a partial recombinant PLEC1.

**Clone Name:** 4D12

**Immunogen:** PLEC1 (NP\_000436, 4384 a.a. ~ 4493 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.

**Sequence:**

CGFEDPRTKTKMSAAQALKKGWLYYEAGQRFLEVQY  
LTGGLIEPDTGPRVPLDEALQRGTVDARTAQKLRDVG  
AYSKYLTCPKTKLKISYKDALDRSMVEEGTGLRLLLEA

**Host:** Mouse

**Reactivity:** Human

**Applications:** ELISA, S-ELISA, WB-Re  
(See our web site product page for detailed applications information)

**Protocols:** See our web site at  
<http://www.abnova.com/support/protocols.asp> or product page for detailed protocols

**Isotype:** IgG2a Kappa

**Storage Buffer:** In 1x PBS, pH 7.4

**Storage Instruction:** Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

**Entrez GeneID:** 5339

**Gene Symbol:** PLEC1

**Gene Alias:** EBS1, EBSO, HD1, PCN, PLEC1b, PLTN

**Gene Summary:** 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 (for reviews see 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 (PMID: 8633055, 8698233). 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 actin 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). Furthermore, isoforms lacking the central rod domain encoded by exon 31 have been detected in mouse and rat (PMID:10556294, 9177781), and as judged by molecular size, have also been detected in human on the protein level (PMID: 11441066, 10780662). It has been shown that 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]