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Product datasheet for TL302439

Plectin (PLEC) Human shRNA Plasmid Kit (Locus ID 5339)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Plectin (PLEC) Human shRNA Plasmid Kit (Locus ID 5339)
Locus ID:	5339
Synonyms:	EBS1; EBSMD; EBSND; EBSO; EBSOG; EBSPA; HD1; LGMD2Q; LGMDR17; PCN; PLEC1; PLEC1b; PLTN
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	PLEC - Human, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 5339). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	NM_000445, NM_201378, NM_201379, NM_201380, NM_201381, NM_201382, NM_201383, NM_201384, NM_000445.1, NM_000445.2, NM_000445.3, NM_000445.4, NM_201379.1, NM_201379.2, NM_201381.1, NM_201381.2, NM_201382.1, NM_201382.2, NM_201382.3, NM_201384.1, NM_201384.2, NM_201383.1, NM_201383.2, NM_201378.2, NM_201378.1, BC007597, BC013206, BM681271, NM_201379.3, NM_201381.3, NM_000445.5, NM_201383.3, NM_201382.4
UniProt ID:	Q15149

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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 (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 These names were superseded by plectin.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]

shRNA Design:

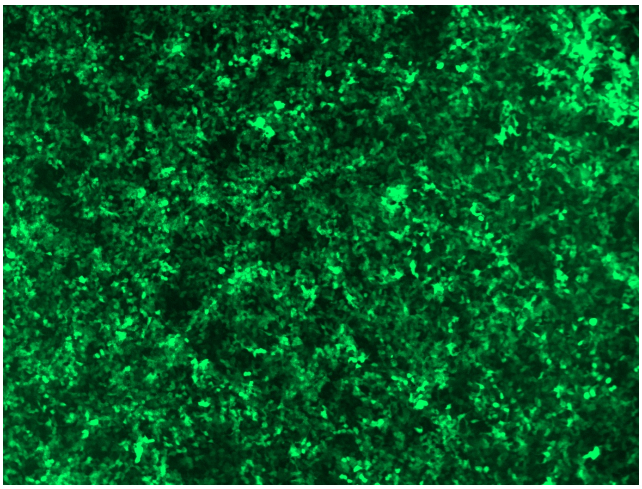
These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

Performance Guaranteed:

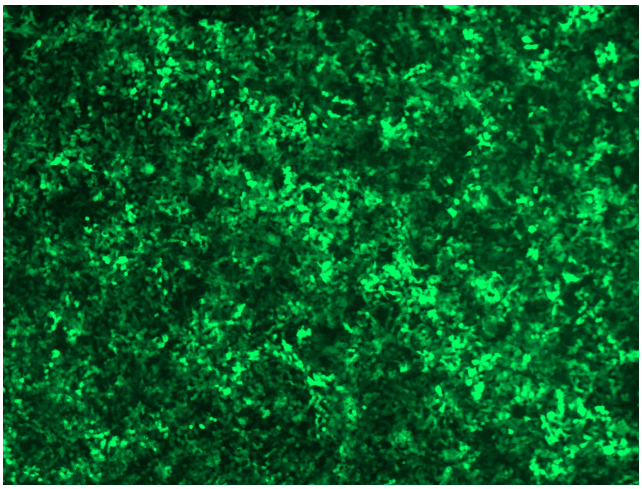
OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).

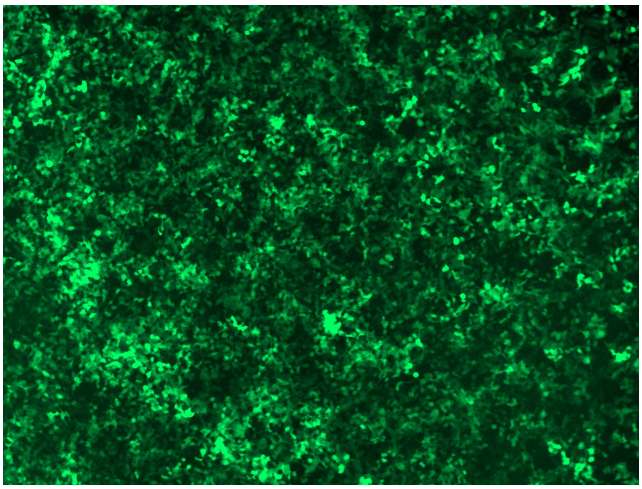
Product images:



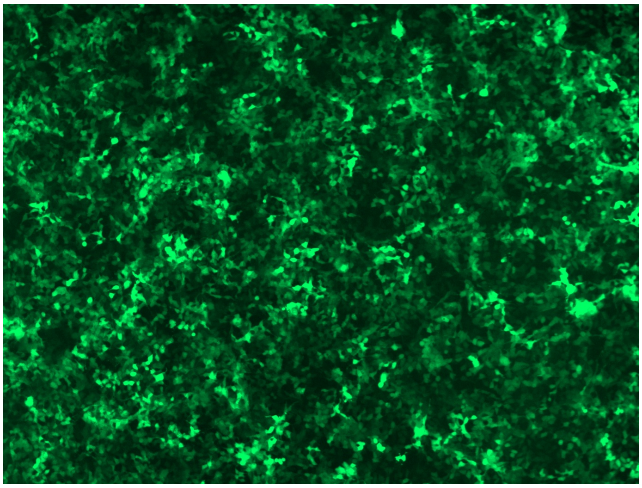
GFP signal was observed under microscope at 48 hours after transduction of TL302439A virus into HEK293 cells. TL302439A virus was prepared using lenti-shRNA TL302439A and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of TL302439B virus into HEK293 cells. TL302439B virus was prepared using lenti-shRNA TL302439B and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of [TL302439C] virus into HEK293 cells. [TL302439C] virus was prepared using lenti-shRNA [TL302439C] and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of [TL302439D] virus into HEK293 cells. [TL302439D] virus was prepared using lenti-shRNA [TL302439D] and [TR30037] packaging kit.