

Product datasheet for **TL501790**

Ptn Mouse shRNA Plasmid (Locus ID 19242)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Ptn Mouse shRNA Plasmid (Locus ID 19242)
Locus ID:	19242
Synonyms:	HARP; HB-GAM; HBBN; HBGF-8; HBNF; OSF; Osf-1; Osf1
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	Ptn - Mouse, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 19242). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	BC002064 , BC061695 , NM_008973 , NM_008973.1 , NM_008973.2 , BC048363
UniProt ID:	P63089



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Summary:

Secreted growth factor that mediates its signal through cell-surface proteoglycan and non-proteoglycan receptors (By similarity). Binds cell-surface proteoglycan receptor via their chondroitin sulfate (CS) groups (By similarity). Thereby regulates many processes like cell proliferation, cell survival, cell growth, cell differentiation and cell migration in several tissues namely neuron and bone (PubMed:15121180, PubMed:30497772, PubMed:27445335, PubMed:19442624). Also plays a role in synaptic plasticity and learning-related behavior by inhibiting long-term synaptic potentiation (PubMed:11414790, PubMed:25000129). Binds PTPRZ1, leading to neutralization of the negative charges of the CS chains of PTPRZ1, inducing PTPRZ1 clustering, thereby causing the dimerization and inactivation of its phosphatase activity leading to increased tyrosine phosphorylation of each of the PTPRZ1 substrates like ALK or AFAP1L2 in order to activate the PI3K-AKT pathway (PubMed:27445335). Through PTPRZ1 binding controls oligodendrocyte precursor cell differentiation by enhancing the phosphorylation of AFAP1L2 in order to activate the PI3K-AKT pathway (PubMed:27445335). Forms a complex with PTPRZ1 and integrin alpha-V/beta-3 (ITGAV:ITGB3) that stimulates endothelial cell migration through SRC dephosphorylation and activation that consequently leads to ITGB3 'Tyr-773' phosphorylation (By similarity). In adult hippocampus promotes dendritic arborization, spine development, and functional integration and connectivity of newborn granule neurons through ALK by activating AKT signaling pathway (PubMed:30497772). Binds GPC2 and chondroitin sulfate proteoglycans (CSPGs) at the neuron surface, leading to abrogation of binding between PTPRS and CSPGs and neurite outgrowth promotion (By similarity). Binds SDC3 and mediates bone formation by recruiting and attaching osteoblasts/osteoblast precursors to the sites for new bone deposition (By similarity). Binds ALK and promotes cell survival and cell proliferation through MAPK pathway activation (By similarity). Inhibits proliferation and enhances differentiation of neural stem cells by inhibiting FGF2-induced fibroblast growth factor receptor signaling pathway (PubMed:15121180). Mediates regulatory mechanisms in normal hemostasis and in hematopoietic regeneration and in maintaining the balance of myeloid and lymphoid regeneration (PubMed:21791434). In addition may play a role in the female reproductive system, auditory response and the progesterone-induced decidualization pathway (PubMed:17121547, PubMed:28657144, PubMed:16619002).[UniProtKB/Swiss-Prot Function]

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).