

## Product datasheet for **MC204839**

### Ptn (NM\_008973) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Ptn (NM_008973) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Ptn
Synonyms:	HARP; HB-GAM; HBBN; HBGF-8; HBNF; OSF; Osf-1; Osf1
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>BC061695

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CGGCAGGGTGTAGTTGAGTGAAGGCAGGATCAGGTTCCCGCCTACCCGTCCAAATATCCCGCCAAGGAA
GCCCCAGAGCACAAGAAAACCCAAAGTGGAGAGAGGGGAAGAAAGAAAGCACTGAGTCATCCATCCAGAA
GGGGGGAGAGCAGAGCGCAGCCGCCAGGCAGGAGCATCAGCCAGCGATACCTGGAGTCTGCAGAAACCT
CGCCCGCACTTTGCAACAAAGGCAGCCAGCTAGTCAGCGAGGACCTCTGCAAGCCAAAAAATGTCGTCCC
AGCAATATCAGCAGCAACGTAGAAAAATTGCGAGCTGCCTTCTGGCATTGATTTTCATCTTGGCAGCTGT
GGACACTGCTGAGGCCGGGAAGAAAGAGAAACCTGAAAAAAGGTGAAAAAGTCTGACTGTGGAGAAATGG
CAGTGGAGTGTGTGCGTGCCTACCAGCGGGGACTGTGGATTGGGCACCCGGGAGGGCACTCGCACTGGCG
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TGAGTGCAAGTACCAGTTCAGGCTTGGGAGAAATGTGACCTCAATACCGCCTTGAAGACCAGAAGTGGC
AGCCTGAAGCGAGCTCTGCACAATGCTGACTGTCAGAAAAGTGTACCATCTCCAAGCCCTGTGGCAAGC
TCACCAAGCCCAAGCCTCAAGCGGAGTCAAGAAGAAAGAAAGGAAGGCAAGAAACAGGAGAAGATGCT
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CATAGTACCAGTAGGGGCTTATAATAAAGGATTGTAATACTATTTAGGAAGTTGAAGTCTGTAGTACATA
ATAGGAGGTAGGATTGAGGTAAGTTTTTGGTGTGTTATTTTGTGTTTGTTCATTTTGGTTTGGTTTGG
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TCAGAAAAAAATACACACTAAATAAAGCAGCAATAAAATATAAATCATTCTATTGGAGAGAAATGCATT
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TGAAATGTTGATCTTTGTTTTTTTTTTTTTAAAGATAAGATTGAAACATGAAATCCTTTCACTTTGGC
AGAAAAACATTTGTTTTCTTGATGAAATTATTTTACATCTGAGGAAAAAATCTAGGAAAAATAAAACAA
GTGATGCTGAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
  
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Restriction Sites: RsrII-NotI


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<b>ACCN:</b>	NM_008973
<b>Insert Size:</b>	507 bp
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li> </ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u>BC061695</u> , <u>AAH61695</u>
<b>RefSeq Size:</b>	1603 bp
<b>RefSeq ORF:</b>	507 bp
<b>Locus ID:</b>	19242
<b>UniProt ID:</b>	<u>P63089</u>
<b>Cytogenetics:</b>	6 15.48 cM

**Gene 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]