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# PTN Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12263b

## Product Information

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|---|---|
| **Application** | WB, IHC-P, FC, E |
| **Primary Accession** | P21246 |
| **Other Accession** | P63090, P63089, NP_002816.1 |
| **Reactivity** | Human, Rat, Mouse |
| **Predicted** | Mouse, Rat, Bovine, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB14477 |
| **Calculated MW** | 18942 |
| **Antigen Region** | 127-154 |

## Additional Information

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| **Gene ID** | 5764 |
| **Other Names** | Pleiotrophin, PTN, Heparin-binding brain mitogen, HBBM, Heparin-binding growth factor 8, HBGF-8, Heparin-binding growth-associated molecule, HB-GAM, Heparin-binding neurite outgrowth-promoting factor 1, HBNF-1, Osteoblast-specific factor 1, OSF-1, PTN, HBNF1, NEGF1 |
| **Target/Specificity** | This PTN antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 127-154 amino acids from the C-terminal region of human PTN. |
| **Dilution** | WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | PTN Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | PTN ( HGNC:9630) |

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| **Synonyms** | HBNF1, NEGF1 |
| **Function** | Secreted growth factor that mediates its signal through cell- surface proteoglycan and non-proteoglycan receptors (PubMed:11278720, PubMed:16814777, PubMed:19141530). Binds cell-surface proteoglycan receptor via their chondroitin sulfate (CS) groups (PubMed:26896299, PubMed:27445335). Thereby regulates many processes like cell proliferation, cell survival, cell growth, cell differentiation and cell migration in several tissues namely neuron and bone (PubMed:11278720, PubMed:1733956, PubMed:1768439, PubMed:19141530, PubMed:19442624, PubMed:27445335, PubMed:30667096). Also plays a role in synaptic plasticity and learning-related behavior by inhibiting long-term synaptic potentiation (By similarity). 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, CTNNB1 or AFAP1L2 in order to activate the PI3K-AKT pathway (PubMed:10706604, PubMed:16814777, PubMed:17681947, PubMed:27445335, PubMed:30667096). Through PTPRZ1 binding controls oligodendrocyte precursor cell differentiation by enhancing the phosphorylation of AFAP1L2 in order to activate the PI3K-AKT pathway (PubMed:27445335, PubMed:30667096). 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 (PubMed:19141530). In adult hippocampus promotes dendritic arborization, spine development, and functional integration and connectivity of newborn granule neurons through ALK by activating AKT signaling pathway (By similarity). 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 (PubMed:11278720). Inhibits proliferation and enhances differentiation of neural stem cells by inhibiting FGF2-induced fibroblast growth factor receptor signaling pathway (By similarity). Mediates regulatory mechanisms in normal hemostasis and in hematopoietic regeneration and in maintaining the balance of myeloid and lymphoid regeneration (By similarity). In addition may play a role in the female reproductive system, auditory response and the progesterone-induced decidualization pathway (By similarity). |
| **Cellular Location** | Secreted |
| **Tissue Location** | Osteoblast and brain.. |

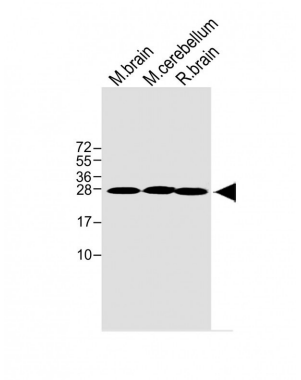
## Background

PTN ia a heparin binding mitogenic protein. It has neurite extension activity.

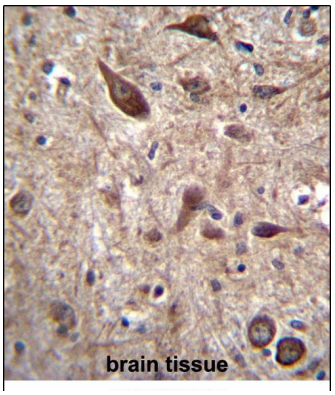
## References


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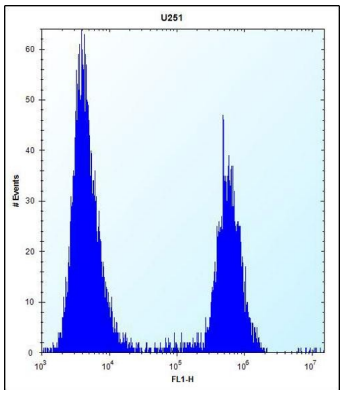
## Images




All lanes :PTN Antibody (C-term) at 1:1000 dilution Lane 1: mouse brain tissue lysate Lane 2: mouse cerebellum tissue lysate Lane 3: rat brain tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/10000 dilution. Observed band size :28kDa Blocking/Dilution buffer: 5% NFDM/TBST.




PTN Antibody (C-term) (Cat. #AP12263b)immunohistochemistry analysis in formalin fixed and paraffin embedded human brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of PTN Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.




PTN Antibody (C-term) (Cat. #AP12263b) flow cytometric analysis of U251 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.