Anti-PTN Antibody [JE47-40]

HA722055

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 19 kDa
Clone number:	JE47-40

Description: Pleiotrophin (PTN) also known as heparin-binding brain mitogen (HBBM) or heparin-binding growth factor 8 (HBGF-8) or neurite growth-promoting factor 1 (NEGF1) or heparin affinity regulatory peptide (HARP) or heparin binding growth associated molecule (HB-GAM) is a protein that in humans is encoded by the PTN gene. Pleiotrophin is an 18-kDa growth factor that has a high affinity for heparin. It is structurally related to midkine and retinoic acid induced heparin-binding protein. Pleiotrophin was initially recognized as a neurite outgrowth-promoting factor present in rat brain around birth and as a mitogen toward fibroblasts isolated from bovine uterus tissue. Together with midkine these growth-factors constitute a family of (developmentally regulated) secreted heparin-binding proteins[8] now known as the neurite growth-promoting factor (NEGF) family. During embryonic and early postnatal development, pleiotrophin is expressed in the central and peripheral nervous system and also in several non-neural tissues, notably lung, kidney, gut and bone.[9] Pleiotrophin is also expressed by several tumor cells and is thought to be involved in tumor angiogenesis. In the adult central nervous system, pleiotrophin is expressed in an activity-dependent manner in the hippocampus where it can suppress long term potentiation induction. Pleiotrophin expression is low in other areas of the adult brain, but it can be induced by ischemic insults. or targeted neuronal damaged in the entorhinal cortex or in the substantia nigra pars compacta.

Immunogen:	Synthetic peptide within Human PTN aa 1-100.
Positive control:	Human brain tissue lysate, mouse brain tissue lysate, rat brain tissue lysate, human brain tissue.
Subcellular location:	Secreted.
Database links:	SwissProt: P21246 Human | P63089 Mouse | P63090 Rat
Recommended Dilutions:	
WB	1:1,000
IHC-P	1:3,000
Storage Buffer:	1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

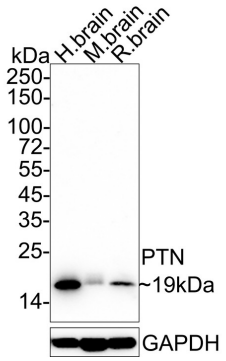

Fig1: Western blot analysis of PTN on different lysates with Rabbit anti-PTN antibody (HA722055) at 1/1,000 dilution.

Lane 1: Human brain tissue lysate
Lane 2: Mouse brain tissue lysate
Lane 3: Rat brain tissue lysate

Lysates/proteins at 40 µg/Lane.

Predicted band size: 19 kDa
Observed band size: 19 kDa

Exposure time: 3 minutes 5 seconds;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722055) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

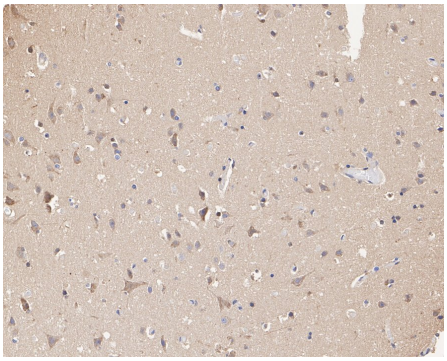

Fig2: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rabbit anti-PTN antibody (HA722055) at 1/3,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722055) at 1/3,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Dong Z et al. PTN-PTPRZ signalling is involved in deer antler stem cell regulation during tissue regeneration. J Cell Physiol. 2021 May
2. Liu S et al. Discovery of PTN as a serum-based biomarker of pro-metastatic prostate cancer. Br J Cancer. 2021 Mar