

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Pleiotrophin/PTN in direct ELISAs and Western blots. In direct ELISAs, less than 50% cross-reactivity with recombinant mouse PTN is observed, and less than 1% cross-reactivity with recombinant human Midkine is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human Pleiotrophin/PTN Gly33-Asp168 Accession # P21246
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

PTN was identified independently by several groups as a novel heparin-binding, developmentally regulated cytokine. Depending on the biological activities studied, this protein has variously been referred to as heparin-binding brain mitogen (HBBM), heparin-binding growth factor-8 (HBGF-8), heparin-binding neurite promoting factor, heparin-binding neurotrophic factor (HBNF), heparin-affinity regulatory peptide (HARP), heparin-binding growth-associated molecule (HB-GAM), osteoblast-specific factor (OSF-1), and pleiotrophin. PTN is a highly conserved protein; the amino acid sequences of human, bovine, rat, and mouse PTN share >98% homology.

PTN is a member of a family of heparin-binding proteins that share sequence, structural, and functional similarity. Other members of this family include midkine (MK), and chicken retinoic acid-induced heparin-binding protein (RI-HB), an avian homologue of MK. The expression of all these cytokines is restricted and highly regulated during development.

PTN can be used as an attachment substrate to stimulate neurite outgrowth in mixed cultures of embryonic rat, mouse or chicken brain cells. Although both natural and recombinant human PTN have been reported to be mitogenic for fibroblasts, endothelial, and epithelial cells, the data are still highly controversial. PTN has been shown to transform NIH-3T3 and SW-13 cells, as evidenced by anchorage-independent growth and tumor formation in the nude mouse. These results suggest that, in spite of the conflicting reports of PTN's growth-promoting activity *in vitro*, PTN may have a role in abnormal cell growth *in vivo*.

PRODUCT SPECIFIC NOTICES

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