

DESCRIPTION

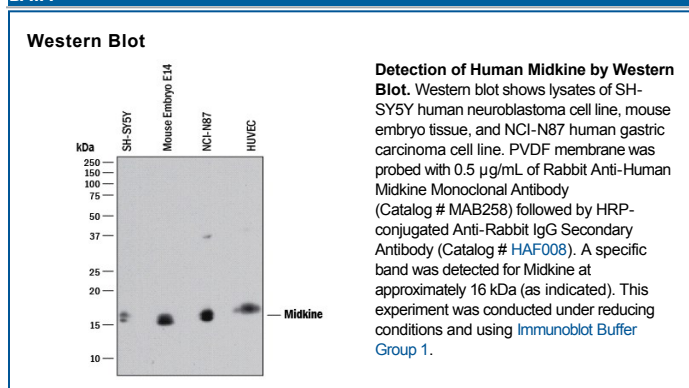
Species Reactivity	Human
Specificity	Detects human Midkine in direct ELISAs and Western blots.
Source	Monoclonal Rabbit IgG Clone # 1706A
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Midkine. Lys23-Asp143 Accession # P21741
Formulation	Supplied as a solution in PBS containing BSA, Glycerol and Sodium Azide. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

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.

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 °C, as supplied. ● 1 month, 2 to 8 °C under sterile conditions after opening. ● 6 months, -20 to -70 °C under sterile conditions after opening.

BACKGROUND

Midkine (MK) is a 15 kDa heparin-binding molecule originally cloned during a search for genes preferentially transcribed during retinoic acid (RA)-induced differentiation. Midkine belongs to a family of neurotrophic and developmentally-regulated heparin-binding molecules consisting of midkine, pleiotrophin (PTN/HBNF/OSF-1/HNGF-8) and the avian midkine homolog, RI-HB (for retinoic acid-inducible heparin-binding protein).

Midkine is a highly basic, nonglycosylated polypeptide that contains five intrachain disulfide bonds. The predicted molecular weight is approximately 13.3 kDa, based on a mature peptide length of 118 amino acid residues in the mouse and 121 amino acid residues in the human. Across species, MK shows 87% identity between the human and murine proteins. Between family members, human MK is approximately 50% identical to human PTN, with conservation of all 10 cysteines. Initial structure-function studies indicate that the C-terminal half of MK contains the principal heparin-binding site plus the molecule's antigenicity and neurite-promoting sequences; while both the C- and N-termini are necessary for the molecule's neurotrophic effects. Cells known to produce MK include endothelial cells, fetal astrocytes, renal proximal tubule epithelial cells and Wilms' (kidney) tumor cells. MK has also been identified in the senile plaques of patients with Alzheimer's disease. The pattern of expression of midkine during development strongly suggests a role for this factor both in epithelial-mesenchymal interactions and in development of the nervous system.

References:

1. Bohlen, P. and I. Kovesdi (1991) Prog. Growth Factor Res. **3**:143.
2. Muramatsu, T. (1993) Int. J. Dev. Biol. **37**:183.

PRODUCT SPECIFIC NOTICES

* Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to SDS for additional information and handling instructions.