

HPA1 (M-45): sc-25826

BACKGROUND

Heparanases (HPA) degrade heparan sulfate side chains of heparan sulfate proteoglycans (HSPGs) in the extracellular matrix and play an important role in the extravasation of blood-borne tumor cells and inflammatory leukocytes. HPA1 dismantles the subendothelial basal membrane and facilitates the metastasis of blood-borne tumor cells. Furthermore, HPA1 induces angiogenesis and likely promotes the vascularization of tumors. Upon degradation, HPAs free growth factors and cytokines that stimulate cell proliferation and chemotaxis. Fibroblasts endocytose extracellular HPA1 for cytoplasmic accumulation *in vitro*. Proteolytic processing at the cell surface of a precursor begets an active form of HPA1. The gene encoding human HPA1 maps to chromosome 4q21.23.

REFERENCES

1. Vlodavsky, I., et al. 1983. Lymphoma cell mediated degradation of sulfated proteoglycans in the subendothelial extracellular matrix: relationship to tumor cell metastasis. *Cancer Res.* 43: 2704-2711.
2. Bashkin, P., et al. 1989. Basic fibroblast growth factor binds to subendothelial extracellular matrix and is released by heparitinase and heparin-like molecules. *Biochemistry* 28: 1737-1743.
3. Vlodavsky, I., et al. 1990. Extracellular matrix-resident growth factors and enzyme: possible involvement in tumor metastasis and angiogenesis. *Cancer Metastasis Rev.* 9: 203-226.
4. Vlodavsky, I., et al. 1992. Expression of heparanase by platelets and circulating cells of the immune system: possible involvement in diapedesis and extravasation. *Invasion Metastasis* 12: 112-127.
5. Baker, E., et al. 1999. Human HPA endoglycosidase heparanase. Map position 4q21.3. *Chromosome Res.* 7: 319.
6. Dempsey, L.A., et al. 2000. Heparanase, a potential regulator of cell-matrix interactions. *Trends Biochem. Sci.* 25: 349-351.
7. Vlodavsky, I., et al. 2001. Properties and function of heparanase in cancer metastasis and angiogenesis. *Haemostasis* 31 Suppl. 1: 60-63.
8. Nadav, L., et al. 2002. Activation, processing and trafficking of extracellular heparanase by primary human fibroblasts. *J. Cell Sci.* 115: 2179-2187.

CHROMOSOMAL LOCATION

Genetic locus: HPSE (human) mapping to 4q21.23; Hpse (mouse) mapping to 5 E4.

SOURCE

HPA1 (M-45) is a rabbit polyclonal antibody raised against amino acids 491-535 mapping at the C-terminus of heparanase 1 of mouse origin.

Manufactured by Santa Cruz Biotechnology, Inc. under license from Insight Biopharmaceuticals Ltd.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HPA1 (M-45) is recommended for detection of heparanase 1 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HPA1 (M-45) is also recommended for detection of heparanase 1 in additional species, including equine.

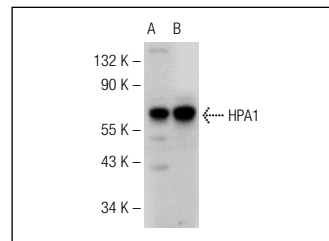
Suitable for use as control antibody for HPA1 siRNA (m): sc-40686, HPA1 shRNA Plasmid (m): sc-40686-SH and HPA1 shRNA (m) Lentiviral Particles: sc-40686-V.

Molecular Weight of HPA1 latent precursor: 65 kDa.

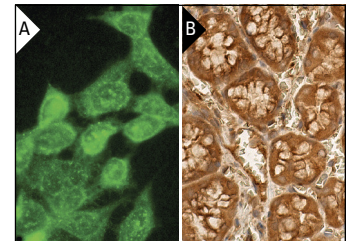
Molecular Weight of proteolytically processed highly active HPA1: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or HL-60 whole cell lysate: sc-2209.

DATA



HPA1 (M-45): sc-25826. Western blot analysis of HPA1 expression in Jurkat (A) and HL-60 (B) whole cell lysates.



HPA1 (M-45): sc-25826. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic and nuclear staining of glandular cells (B).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.