SANTA CRUZ BIOTECHNOLOGY, INC.

HPA1 (H-80): sc-25825

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heparanases (HPA) degrade heparan sulfate side chains of heparan sulfate proteoglycans (HSPGs) in the extracellular matrix and play animportant 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.

CHROMOSOMAL LOCATION

Genetic locus: HPSE (human) mapping to 4q21.23.

SOURCE

HPA1 (H-80) is a rabbit polyclonal antibody raised against amino acids 101-180 mapping within an internal region of heparanase 1 of human origin.

PRODUCT

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

APPLICATIONS

HPA1 (H-80) is recommended for detection of heparanase 1 of 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 (H-80) is also recommended for detection of heparanase 1 in additional species, including equine and bovine.

Suitable for use as control antibody for HPA1 siRNA (h): sc-40685, HPA1 shRNA Plasmid (h): sc-40685-SH and HPA1 shRNA (h) Lentiviral Particles: sc-40685-V.

Molecular Weight of HPA1 latent precursor: 65 kDa.

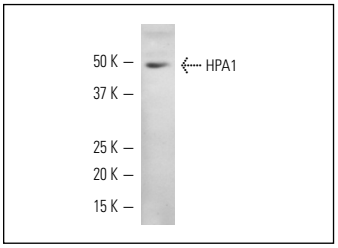
Molecular Weight of HPA1 proteolytically processed highly active: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

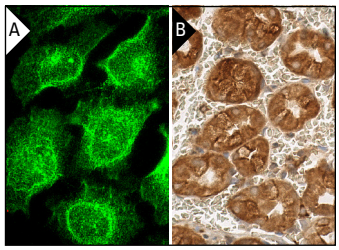
STORAGE

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

DATA



HPA1 (H-80): sc-25825. Western blot analysis of active HPA1 expression in HeLa whole cell lysate.



HPA1 (H-80): sc-25825. Immunofluorescence staining of methanol-fixed HeLa 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**).

SELECT PRODUCT CITATIONS

1. Hong, X., et al. 2008. Increased chemotactic migration and growth in heparanase-overexpressing human U251n glioma cells. J. Exp. Clin. Cancer Res. 27: 23.
2. Ailan, H., et al. 2009. Identification of target genes of transcription factor activator protein 2 γ in breast cancer cells. BMC Cancer 9: 279.
3. Masola, V., et al. 2009. Heparanase activity in alveolar and embryonal rhabdomyosarcoma: implications for tumor invasion. BMC Cancer 9: 304.
4. González-Alva, P., et al. 2010. Expression of heparanase: a possible role in invasiveness and aggressive clinical behavior of ameloblastomas. J. Oral Sci. 52: 39-47.
4. Rao, G., et al. 2011. Reactive oxygen species mediate high glucose-induced heparanase-1 production and heparan sulphate proteoglycan degradation in human and rat endothelial cells: a potential role in the pathogenesis of atherosclerosis. Diabetologia 54: 1527-1538.
5. Masola, V., et al. 2011. Regulation of heparanase by albumin and advanced glycation end products in proximal tubular cells. Biochim. Biophys. Acta 1813: 1475-1482.
6. Ege, C.B., et al. 2011. Investigation of galectin-3 and heparanase in endometrioid and serous carcinomas of the endometrium and correlation with known predictors of survival. Arch. Gynecol. Obstet. 284: 1231-1239.

RESEARCH USE

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