SANTA CRUZ BIOTECHNOLOGY, INC.

HPA1 (D-3): sc-518151

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 sunendothelial extracellular matrix and is released by heparitinase and heparin-like molecules. Biochemistry 28: 1737-1743.
3. Vlodasvsky, I., et al. 1990. Extracellular matrix-resident growth factors and enzyme: Possible involvement in tumor metatstasis and angiiogenesis. 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.

CHROMOSOMAL LOCATION

Genetic locus: Hpse (mouse) mapping to 5 E4.

SOURCE

HPA1 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 82-104 of HPA1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HPA1 (D-3) is available conjugated to agarose (sc-518151 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518151 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518151 PE), fluorescein (sc-518151 FITC), Alexa Fluor® 488 (sc-518151 AF488), Alexa Fluor® 546 (sc-518151 AF546), Alexa Fluor® 594 (sc-518151 AF594) or Alexa Fluor® 647 (sc-518151 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518151 AF680) or Alexa Fluor® 790 (sc-518151 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HPA1 (D-3) is recommended for detection of HPA1 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

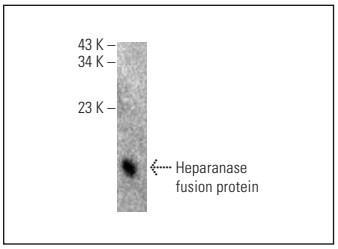
Molecular Weight of HPA1 latent precursor: 65 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HPA1 (D-3): sc-518151. Western blot analysis of mouse recombinant HPA1 fusion protein. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

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 for detailed protocols and support products.