

HPA1 (E-10): sc-515935

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. Baker, E., et al. 1999. Human HPA endoglycosidase heparanase. Map position 4q21.3. *Chromosome Res.* 7: 319.

CHROMOSOMAL LOCATION

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

SOURCE

HPA1 (E-10) is a mouse monoclonal antibody raised against amino acids 491-535 mapping at the C-terminus of HPA1 of mouse origin.

PRODUCT

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

HPA1 (E-10) is available conjugated to agarose (sc-515935 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515935 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515935 PE), fluorescein (sc-515935 FITC), Alexa Fluor® 488 (sc-515935 AF488), Alexa Fluor® 546 (sc-515935 AF546), Alexa Fluor® 594 (sc-515935 AF594) or Alexa Fluor® 647 (sc-515935 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515935 AF680) or Alexa Fluor® 790 (sc-515935 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

HPA1 (E-10) is recommended for detection of HPA1 of mouse, rat and human 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 (h): sc-40685, HPA1 siRNA (m): sc-40686, HPA1 shRNA Plasmid (h): sc-40685-SH, HPA1 shRNA Plasmid (m): sc-40686-SH, HPA1 shRNA (h) Lentiviral Particles: sc-40685-V and HPA1 shRNA (m) Lentiviral Particles: sc-40686-V.

Molecular Weight of HPA1 latent precursor: 65 kDa.

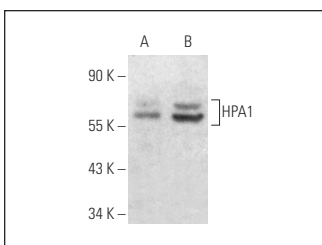
Molecular Weight of proteolytically processed highly active HPA1: 50 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or I-11.15 whole cell lysate: sc-364370.

RECOMMENDED SUPPORT 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 (E-10): sc-515935. Western blot analysis of HPA1 expression in HL-60 (A) and I-11.15 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lv, Q., et al. 2018. Interleukin-17A and heparanase promote angiogenesis and cell proliferation and invasion in cervical cancer. *Int. J. Oncol.* 53: 1809-1817.

STORAGE

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