

HAS3 (L-14): sc-34202

BACKGROUND

HAS1, HAS2 and HAS3 are HA (hyaluronan or hyaluronic acid) synthase proteins. The extracellular matrix in most vertebrates express HA, which is a high molecular weight linear polysaccharide composed of alternating glucuronic acid and N-acetylglucosamine residues linked by β -1,3 and β -1,4 glycosidic bonds. The three HAS genes show distinct patterns of expression during development and their protein products play significantly different roles in the formation of the HA matrix. Both HAS1 and HAS2 synthesize high molecular-weight HA, whereas HAS3 produces lower molecular weight HA. The expression of the three HAS isoforms is more prominent in growing cells than in resting cells and is differentially regulated by various stimuli, suggesting distinct functional roles of the three proteins. HAS3 produces both secreted and cell-associated forms of hyaluronan and is the most active of the three isoforms of this enzyme in adults. HAS3 gene expression plays a crucial role in the regulation of hyaluronan synthesis in the epidermis. Specifically, IFN- γ markedly upregulates HAS3 mRNA, whereas TGF β downregulates HAS3 transcript levels. The human HAS3 gene maps to chromosome 16q22.1.

REFERENCES

1. Spicer, A.P., et al. 1997. Chromosomal localization of the human and mouse hyaluronan synthase genes. *Genomics* 41: 493-497.
2. Itano, N., et al. 1999. Three isoforms of mammalian hyaluronan synthases have distinct enzymatic properties. *J. Biol. Chem.* 274: 25085-25092.
3. Jacobson, A., et al. 2000. Expression of human hyaluronan synthases in response to external stimuli. *Biochem. J.* 1: 29-35.
4. Ijuin, C., et al. 2001. Regulation of hyaluronan synthase gene expression in human periodontal ligament cells by tumour necrosis factor- α , interleukin-1 β and interferon- γ . *Arch. Oral Biol.* 46: 767-772.
5. Liu, N., et al. 2001. Hyaluronan synthase 3 overexpression promotes the growth of TSU prostate cancer cells. *Cancer Res.* 61: 5207-5214.

CHROMOSOMAL LOCATION

Genetic locus: HAS3 (human) mapping to 16q22.1; Has3 (mouse) mapping to 8 D3.

SOURCE

HAS3 (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of HAS3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-34202 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

HAS3 (L-14) is recommended for detection of HAS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

HAS3 (L-14) is also recommended for detection of HAS3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HAS3 siRNA (h): sc-45295, HAS3 siRNA (m): sc-45296, HAS3 shRNA Plasmid (h): sc-45295-SH, HAS3 shRNA Plasmid (m): sc-45296-SH, HAS3 shRNA (h) Lentiviral Particles: sc-45295-V and HAS3 shRNA (m) Lentiviral Particles: sc-45296-V.

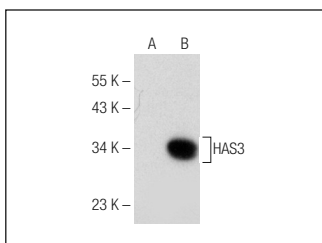
Molecular Weight of HAS3 isoforms: 63/31 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HAS3 (h): 293T Lysate: sc-113978.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HAS3 (L-14): sc-34202. Western blot analysis of HAS3 expression in non-transfected: sc-117752 (A) and human HAS3 transfected: sc-113978 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **HAS3 (G-12): sc-365322**, our highly recommended monoclonal alternative to HAS3 (L-14).