SANTA CRUZ BIOTECHNOLOGY, INC.

HAS1 (G-17): sc-34021

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HAS1, HAS2 and HAS3 are HA Synthase proteins that synthesize HA (hyaluronan or hyaluronic acid). 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. HAS1 mRNA shows predominant expression in bone marrow mesenchymal progenitor cells and synovial cells. The human HAS1 gene maps to chromosome 19q13.41.

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.

CHROMOSOMAL LOCATION

Genetic locus: HAS1 (human) mapping to 19q13.41; Has1 (mouse) mapping to 17 A3.2.

SOURCE

HAS1 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HAS1 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.

Blocking peptide available for competition studies, sc-34021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HAS1 (G-17) is recommended for detection of HAS1 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).

HAS1 (G-17) is also recommended for detection of HAS1 in additional species, including canine and bovine.

Suitable for use as control antibody for HAS1 siRNA (h): sc-40690, HAS1 siRNA (m): sc-40691, HAS1 shRNA Plasmid (h): sc-40690-SH, HAS1 shRNA Plasmid (m): sc-40691-SH, HAS1 shRNA (h) Lentiviral Particles: sc-40690-V and HAS1 shRNA (m) Lentiviral Particles: sc-40691-V.

Molecular Weight of HAS1: 66 kDa.

Positive Controls: SW480 cell lysate: sc-2219.

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.

SELECT PRODUCT CITATIONS

1. Nykopp, T.K., et al. 2010. Hyaluronan synthases (HAS1-3) and hyaluronidases (HYAL1-2) in the accumulation of hyaluronan in endometrioid endometrial carcinoma. BMC Cancer 10: 512.
2. Siiskonen, H., et al. 2011. Chronic UVR causes increased immunostaining of CD44 and accumulation of hyaluronan in mouse epidermis. J. Histochem. Cytochem. 59: 908-917.
3. Rilla, K., et al. 2013. Hyaluronan synthase 1 (HAS1) requires higher cellular UDP-GlcNAc concentration than HAS2 and HAS3. J. Biol. Chem. 288: 5973-5983.
4. de Sá, V.K., et al. 2013. Role of the extracellular matrix in variations of invasive pathways in lung cancers. Braz. J. Med. Biol. Res. 46: 21-31.
5. Siiskonen, H., et al. 2013. Inverse expression of hyaluronidase 2 and hyaluronan synthases 1-3 is associated with reduced hyaluronan content in malignant cutaneous melanoma. BMC Cancer 13: 181.
6. Tuuminen, R., et al. 2013. Combined donor simvastatin and methylprednisolone treatment prevents ischemia-reperfusion injury in rat cardiac allografts through vasculoprotection and immunomodulation. Transplantation 95: 1084-1091.

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.