

HAS2 (S-15): sc-34067

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. HAS2 mRNA shows predominant expression in chondrocytes and cartilage. The human HAS2 gene maps to chromosome 8q24.13.

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: HAS2 (human) mapping to 8q24.13; Has2 (mouse) mapping to 15 D1.

SOURCE

HAS2 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of HAS2 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-34067 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HAS2 (S-15) is recommended for detection of HAS2 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).

HAS2 (S-15) is also recommended for detection of HAS2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HAS2 siRNA (h): sc-45328, HAS2 siRNA (m): sc-45329, HAS2 shRNA Plasmid (h): sc-45328-SH, HAS2 shRNA Plasmid (m): sc-45329-SH, HAS2 shRNA (h) Lentiviral Particles: sc-45328-V and HAS2 shRNA (m) Lentiviral Particles: sc-45329-V.

Molecular Weight of HAS2: 63 kDa.

Positive Controls: mouse embryo extract: sc-364239.

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. Makkonen, K.M., et al. 2009. Regulation of the hyaluronan synthase 2 gene by convergence in cyclic AMP response element-binding protein and retinoid acid receptor signaling. *J. Biol. Chem.* 284: 18270-18281.
2. Zhang, L., et al. 2009. Thyrotropin receptor activation increases hyaluronan production in preadipocyte fibroblasts: contributory role in hyaluronan accumulation in thyroid dysfunction. *J. Biol. Chem.* 284: 26447-26455.
3. 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.
4. Maroski, J., et al. 2011. Shear stress increases endothelial hyaluronan synthase 2 and hyaluronan synthesis especially in regard to an athero-protective flow profile. *Exp. Physiol.* 96: 977-986.
5. 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.
6. 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.
7. 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.

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.


 MONOS
 Satisfaction
 Guaranteed

Try **HAS2 (A-7): sc-514737** or **HAS2 (C-5): sc-365263**, our highly recommended monoclonal alternatives to HAS2 (S-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **HAS2 (A-7): sc-514737**.