

HYAL2 (M-19): sc-49205

BACKGROUND

Hyaluronidases (HAases or HYAL) are a family of lysosomal enzymes that are crucial for the spread of bacterial infections, toxins present in various venoms and, possibly, cancer. In humans, six HYAL proteins have been identified. HYAL proteins use hydrolysis to degrade hyaluronic acid (HA), which is present in body fluids, tissues and the extracellular matrix of vertebrate tissues. HA keeps tissues hydrated, maintains osmotic balance and promotes cell proliferation, differentiation and metastasis. HA is also an important structural component of cartilage and other tissues and acts as a lubricant in joints. HYAL2 is a 452 amino acid peptide that localizes to the lysosomes of mammalian cells. The hyaluronidase activity of HYAL2 is most efficient at a pH below 4, and it only hydrolyzes HAs of high molecular mass. HYAL2 is also the receptor for two exogenous oncogenic viruses, jaagsiekte sheep retrovirus (JSRV) and Enzoitic nasal tumor virus. The viral envelope of JSRV physically associates with and activates HYAL2, consequently activating the Akt1 and mitogen-activated protein kinase-1 pathways, leading to oncogenic transformation.

REFERENCES

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4. Stern, R. 2004. Hyaluronan catabolism: a new metabolic pathway. *Eur. J. Cell Biol.* 83: 317-325.
5. Chow, G. and Knudson, W. 2005. Characterization of promoter elements of the human HYAL2 gene. *J. Biol. Chem.* 280: 26904-26912.
6. Dunlap, K.A., et al. 2005. Sheep endogenous betaretroviruses (enJSRVs) and the hyaluronidase 2 (HYAL2) receptor in the ovine uterus and conceptus. *Biol. Reprod.* 73: 271-279.
7. Jedrzejewski, M.J. and Stern, R. 2005. Structures of vertebrate hyaluronidases and their unique enzymatic mechanism of hydrolysis. *Proteins* 61: 227-238.
8. Udabage, L., et al. 2005. The over-expression of HAS2, HYAL2 and CD44 is implicated in the invasiveness of breast cancer. *Exp. Cell Res.* 310: 205-217.

CHROMOSOMAL LOCATION

Genetic locus: Hyal2 (mouse) mapping to 9 F1.

SOURCE

HYAL2 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HYAL2 of mouse origin.

RESEARCH USE

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

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-49205 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HYAL2 (M-19) is recommended for detection of HYAL2 of mouse and rat origin by Western Blotting (starting dilution 1:200, 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); may cross-react with rat Pib5pa.

HYAL2 (M-19) is also recommended for detection of HYAL2 in additional species, including equine.

Suitable for use as control antibody for HYAL2 siRNA (m): sc-60825, HYAL2 shRNA Plasmid (m): sc-60825-SH and HYAL2 shRNA (m) Lentiviral Particles: sc-60825-V.

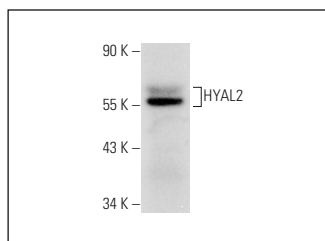
Molecular Weight of HYAL2: 54 kDa.

Positive Controls: rat lung extract: sc-2396.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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



HYAL2 (M-19): sc-49205. Western blot analysis of HYAL2 expression in rat lung tissue extract.

STORAGE

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