SANTA CRUZ BIOTECHNOLOGY, INC.

HYAL1 (1D10): sc-101340

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hyaluronidases (HAases or HYALs) are a family of lysosomal enzymes that are crucial for the spread of bacterial infections and of toxins present in a variety of venoms. HYALs may also be involved in the progression of cancer. In humans, six HYAL proteins have been identified. Most HYAL proteins 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. HYAL1 is a 435 amino acid hyaluronidase that is is expressed in multiple tissues, specifically in the serum, and is not expressed in brain. HYAL1 degrades HA into into fragments that stimulate angiogenesis. Expression of HYAL1 in various cancer cells may have a role in the regulation of tumor growth and progression.

CHROMOSOMAL LOCATION

Genetic locus: HYAL1 (human) mapping to 3p21.31; Hyal1 (mouse) mapping to 9 F1.

SOURCE

HYAL1 (1D10) is a mouse monoclonal antibody raised against amino acids 1-366 of HYAL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HYAL1 (1D10) is available conjugated to agarose (sc-101340 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-101340 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101340 PE), fluorescein (sc-101340 FITC), Alexa Fluor® 488 (sc-101340 AF488), Alexa Fluor® 546 (sc-101340 AF546), Alexa Fluor® 594 (sc-101340 AF594) or Alexa Fluor® 647 (sc-101340 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101340 AF680) or Alexa Fluor® 790 (sc-101340 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

HYAL1 (1D10) is recommended for detection of HYAL1 of mouse, rat, human and hamster 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with HYAL2 or HYAL3.

Suitable for use as control antibody for HYAL1 siRNA (h): sc-78054, HYAL1 siRNA (m): sc-60823, HYAL1 shRNA Plasmid (h): sc-78054-SH, HYAL1 shRNA Plasmid (m): sc-60823-SH, HYAL1 shRNA (h) Lentiviral Particles: sc-78054-V and HYAL1 shRNA (m) Lentiviral Particles: sc-60823-V.

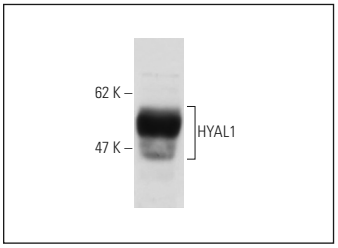
Molecular Weight of HYAL1: 60 kDa.

Positive Controls: BHK cell lysate.

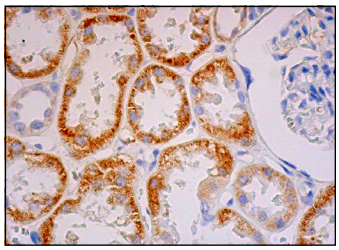
STORAGE

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

DATA



HYAL1 (1D10): sc-101340. Western blot analysis of HYAL1 expression in BHK cell lysate.



HYAL1 (1D10): sc-101340. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Klagas, I., et al. 2009. Decreased hyaluronan in airway smooth muscle cells from patients with asthma and COPD. Eur. Respir. J. 34: 616-628.
2. 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.
3. Terazawa, S., et al. 2015. The decreased secretion of hyaluronan by older human fibroblasts under physiological conditions is mainly associated with the down-regulated expression of hyaluronan synthases but not with the expression levels of hyaluronidases. Cytotechnology 67: 609-620.
4. Sá, V.K., et al. 2015. Hyaluronidases and hyaluronan synthases expression is inversely correlated with malignancy in lung/bronchial pre-neoplastic and neoplastic lesions, affecting prognosis. Braz. J. Med. Biol. Res. 48: 1039-1047.
5. Ooki, T., et al. 2019. High-molecular-weight hyaluronan is a Hippo pathway ligand directing cell density-dependent growth inhibition via PAR1b. Dev. Cell 49: 590-604.e9.
6. Kim, S.H., et al. 2023. Endolysosomal impairment by binding of Amyloid β or MAPT/Tau to V-ATPase and rescue via the HYAL-CD44 axis in Alzheimer disease. Autophagy 19: 2318-2337.
7. Argueta, C.E., et al. 2023. RKIP localizes to the nucleus through a bipartite nuclear localization signal and interaction with importin α to regulate mitotic progression. J. Biol. Chem. 299: 103023.
8. Abe, M., et al. 2024. Epidermal keratinocytes regulate hyaluronan metabolism via extracellularly secreted hyaluronidase 1 and hyaluronan synthase 3. J. Biol. Chem. 300: 107449.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.