

# HYAL2 (H-50): sc-99022

## 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. 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 Enzootic 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

1. Csoka, A.B., et al. 2001. The six hyaluronidase-like genes in the human and mouse genomes. *Matrix Biol.* 20: 499-508.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603551. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Bertrand, P., et al. 2004. Expression of HYAL2 mRNA, hyaluronan and hyaluronidase in B cell non-Hodgkin lymphoma: relationship with tumor aggressiveness. *Int. J. Cancer* 113: 207-212.
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.

## CHROMOSOMAL LOCATION

Genetic locus: HYAL2 (human) mapping to 3p21.31; Hyal2 (mouse) mapping to 9 F1.

## SOURCE

HYAL2 (H-50) is a rabbit polyclonal antibody raised against amino acids 211-260 mapping within an internal region of HYAL2 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.

## RESEARCH USE

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

## APPLICATIONS

HYAL2 (H-50) is recommended for detection of HYAL2 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HYAL2 (H-50) is also recommended for detection of HYAL2 in additional species, including equine, canine, bovine and porcine.

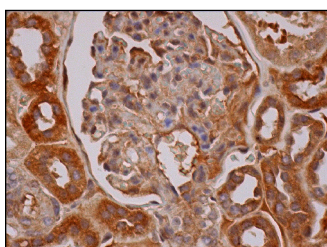
Suitable for use as control antibody for HYAL2 siRNA (h): sc-60824, HYAL2 siRNA (m): sc-60825, HYAL2 shRNA Plasmid (h): sc-60824-SH, HYAL2 shRNA Plasmid (m): sc-60825-SH, HYAL2 shRNA (h) Lentiviral Particles: sc-60824-V and HYAL2 shRNA (m) Lentiviral Particles: sc-60825-V.

Molecular Weight of HYAL2: 54 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



HYAL2 (H-50): sc-99022. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and cells in tubules.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.