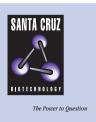
# SANTA CRUZ BIOTECHNOLOGY, INC.

# SPAM1 (H-71): sc-99024



## 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 members of the hyaluronidase family have been identified. These proteins are significant in the degradation of 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. SPAM1 (sperm adhesion molecule 1), also designated Hyal-PH20 or sperm surface protein PH-20, was formerly referred to as HYAL1 (HYA1). The current nomenclature references the functional hyaluronidase activity of SPAM1 to permit acrosome-intact sperm to penetrate through the HA-rich cumulus cell layer surrounding the oocyte. SPAM1 is also implicated in intracellular signaling and zona pellucida binding. SPAM1 is found in the epididymis and in testis, more specifically in plasma and acrosomal membranes of sperm. SPAM1 is a structurally unique hyaluronidase in that it is a GPI-anchored protein.

## REFERENCES

- Lathrop, W.F., Carmichael, E.P., Myles, D.G. and Primakoff, P. 1990. cDNA cloning reveals the molecular structure of a sperm surface protein, PH-20, involved in sperm-egg adhesion and the wide distribution of its gene among mammals. J. Cell Biol. 111: 2939-2949.
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- 3. Gmachl, M., Sagan, S., Ketter, S. and Kreil, G. 1993. The human sperm protein PH-20 has hyaluronidase activity. FEBS Lett. 336: 545-548.
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- Jones, M.H., Davey, P.M., Aplin, H. and Affara, N.A. 1995. Expression analysis, genomic structure, and mapping to 7q31 of the human sperm adhesion molecule gene SPAM1. Genomics 29: 796-800.
- Isoyama, T., Thwaites, D., Selzer, M.G., Carey, R.I., Barbucci, R. and Lokeshwar, V.B. 2005. Differential selectivity of hyaluronidase inhibitors toward acidic and basic hyaluronidases. Glycobiology 16: 11-21.
- Jedrzejas, M.J. and Stern, R. 2005. Structures of vertebrate hyaluronidases and their unique enzymatic mechanism of hydrolysis. Proteins 61: 227-238.
- Dunn, C.A. and Mager, D.L. 2005. Transcription of the human and rodent SPAM1/PH-20 genes initiates within an ancient endogenous retrovirus. BMC Genomics 6: 47.

### **STORAGE**

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

#### CHROMOSOMAL LOCATION

Genetic locus: SPAM1 (human) mapping to 7q31.32.

## SOURCE

SPAM1 (H-71) is a rabbit polyclonal antibody raised against amino acids 439-509 mapping at the C-terminus of SPAM1 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

SPAM1 (H-71) is recommended for detection of SPAM1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for SPAM1 siRNA (h): sc-60822, SPAM1 shRNA Plasmid (h): sc-60822-SH and SPAM1 shRNA (h) Lentiviral Particles: sc-60822-V.

## **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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### **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.