SANTA CRUZ BIOTECHNOLOGY, INC.

# SPAM1 (D-9): sc-518256

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 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


1. Lathrop, W.F., et al. 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.
2. Lin, Y., et al. 1993. Molecular cloning of the human and monkey sperm surface protein PH-20. Proc. Natl. Acad. Sci. USA 90: 10071-10075.
3. Gmachl, M., et al. 1993. The human sperm protein PH-20 has hyaluronidase activity. FEBS Lett. 336: 545-548.
4. Lin, Y., et al. 1994. A hyaluronidase activity of the sperm plasma membrane protein PH-20 enables sperm to penetrate the cumulus cell layer surrounding the egg. J. Cell Biol. 125: 1157-1163.


## CHROMOSOMAL LOCATION

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

## SOURCE

SPAM1 (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 144-166 of SPAM1 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.

SPAM1 (D-9) is available conjugated to agarose (sc-518256 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518256 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518256 PE), fluorescein (sc-518256 FITC), Alexa Fluor® 488 (sc-518256 AF488), Alexa Fluor® 546 (sc-518256 AF546), Alexa Fluor® 594 (sc-518256 AF594) or Alexa Fluor® 647 (sc-518256 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518256 AF680) or Alexa Fluor® 790 (sc-518256 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

SPAM1 (D-9) is recommended for detection of SPAM1 of human origin by Western Blotting (starting dilution 1:100, 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).

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.

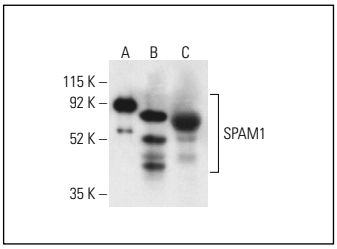
Molecular Weight of SPAM1: 67 kDa.

Positive Controls: Hs 181 Tes whole cell lysate: sc-364779.

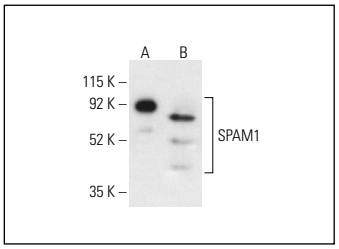
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




SPAM1 (D-9): sc-518256. Western blot analysis of SPAM1 expression in human recombinant SPAM1 fusion protein (**A**), Hs 181 Tes whole cell lysate (**B**) and human epididymis tissue extract (**C**). Detection reagent used: m-$IgG_1$ BP-HRP: sc-525408.




SPAM1 (D-9): sc-518256. Western blot analysis of SPAM1 expression in human recombinant SPAM1 fusion protein (**A**) and Hs 181 Tes whole cell lysate (**B**). Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

## 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.

## PROTOCOLS

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