

Acrosin (H-40): sc-67151

BACKGROUND

Acrosin, a member of the peptidase S1 family, is a major protease present in the acrosome of mature mammalian spermatozoa. Acrosin is a typical serine proteinase with trypsin-like cleavage specificity. The zymogen form, proacrosin, is the precursor of Acrosin synthesized only in the postmeiotic stages of spermatogenesis. The active enzyme functions in the lysis of the zona pellucida, allowing the penetration of sperm through the innermost glycoprotein layers of the ovum.

REFERENCES

1. Peknicova, J., et al. 1990. Monoclonal antibodies against boar acrosomal antigens labelling undamaged acrosomes of spermatozoa in immunofluorescence test. *Andrologia* 22: 427-435.
2. Moos, J., et al. 1993. Protein-protein interactions controlling Acrosin release and solubilization during the boar sperm acrosome reaction. *Biol. Reprod.* 49: 408-415.
3. Peknicova, J., et al. 2001. Monoclonal antibodies to intra-acrosomal proteins inhibit gamete binding *in vitro*. *Theriogenology* 56: 211-223.
4. Zalata, A., et al. 2004. Relationship between Acrosin activity of human spermatozoa and oxidative stress. *Asian J. Androl.* 6: 313-318.
5. Chaudhury, K., et al. 2004. Studies on the membrane integrity of human sperm treated with a new injectable male contraceptive. *Hum. Reprod.* 19: 1826-1830.
6. Wang, H., et al. 2004. Novel role for a sterol response element binding protein in directing spermatogenic cell-specific gene expression. *Mol. Cell Biol.* 24: 10681-10688.
7. Pyoung, I., et al. 2004. Molecular characterization of the 32 kDa boar sperm protease. *Mol. Reprod. Dev.* 68: 354-258.
8. Chaudhury, K., et al. 2005. Acrosin activity as a potential marker for sperm membrane characteristics in unexplained male infertility. *Fertil. Steril.* 83: 104-109.
9. Langlois, M., et al. 2005. Discrepancy between sperm Acrosin activity and sperm morphology: significance for fertilization *in vitro*. *Clin. Chim. Acta* 351: 121-129.

CHROMOSOMAL LOCATION

Genetic locus: ACR (human) mapping to 22q13.33; Acr (mouse) mapping to 15 E3.

SOURCE

Acrosin (H-40) is a rabbit polyclonal antibody raised against amino acids 184-223 mapping within an internal region of Acrosin 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.

APPLICATIONS

Acrosin (H-40) is recommended for detection of Acrosin 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Acrosin siRNA (h): sc-45604, Acrosin siRNA (m): sc-45605, Acrosin shRNA Plasmid (h): sc-45604-SH, Acrosin shRNA Plasmid (m): sc-45605-SH, Acrosin shRNA (h) Lentiviral Particles: sc-45604-V and Acrosin shRNA (m) Lentiviral Particles: sc-45605-V.

Molecular Weight of proacrosin: 55/53/49 kDa.

Molecular Weight of intermediate Acrosin: 43 kDa.

Molecular Weight of mature Acrosin: 35 kDa.

Positive Controls: NTERA-2 whole cell lysate.

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.

SELECT PRODUCT CITATIONS

1. Roqueta-Rivera, M., et al. 2011. Deficiency in the ω-3 fatty acid pathway results in failure of acrosome biogenesis in mice. *Biol. Reprod.* 85: 721-732.

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 or our catalog for detailed protocols and support products.