

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CRISP-1 in direct ELISAs.
Source	Monoclonal Rat IgG _{2B} Clone # 840017
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CRISP-1 Gln20-His244 Accession # Q03401
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

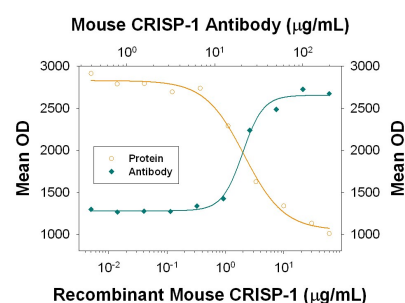
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below
Neutralization	Measured by its ability to neutralize CRISP-1-inhibited proliferation in the 3A-sub E human placenta cell line. The Neutralization Dose (ND ₅₀) is typically 10-20 µg/mL in the presence of 10 µg/mL Recombinant Mouse CRISP-1.	

DATA

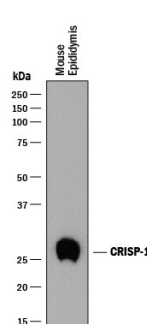
Neutralization



Proliferation Inhibited by CRISP-1 and Neutralization by Mouse CRISP-1 Antibody.

Recombinant Mouse CRISP-1 inhibits proliferation in the 3A-sub E human placenta cell line in a dose-dependent manner (orange line), as measured by Resazurin (Catalog # AR002). Proliferation inhibited by Recombinant Mouse CRISP-1 (10 µg/mL) is neutralized (green line) by increasing concentrations of Rat Anti-Mouse CRISP-1 Monoclonal Antibody (Catalog # MAB4675). The ND₅₀ is typically 10-20 µg/mL.

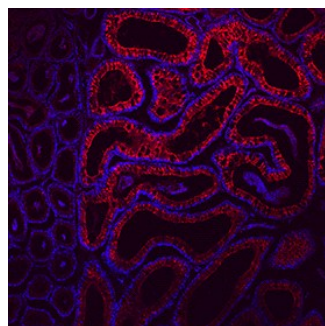
Western Blot



Detection of Mouse CRISP-1 by Western Blot.

Western blot shows lysates of mouse epididymis tissue. PVDF membrane was probed with 1 µg/mL of Rat Anti-Mouse CRISP-1 Monoclonal Antibody (Catalog # MAB4675) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for CRISP-1 at approximately 27-30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



CRISP-1 in Mouse Epididymis. CRISP-1 was detected in perfusion fixed frozen sections of mouse epididymis using Rat Anti-Mouse CRISP-1 Monoclonal Antibody (Catalog # MAB4675) at 10 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent IHC Staining of Frozen Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Cysteine-rich Secretory Protein 1 (CRISP-1), also known as Acidic Epididymal Glycoprotein 1 (AEG1) and Sperm-Coating Glycoprotein 1 (SCP1), is a 29-32 kDa (26.4 kDa predicted) protein that is involved in male reproductive biology (1, 2). CRISPs belong to the CAP superfamily of molecules that also includes several snake, insect, and lizard venom proteins (3). Structurally, CRISPs consist of an N-terminal SCP/CAP domain, a hinge region, and a Cys-rich domain with 16 invariant cysteine residues (4). CRISPs are expressed in discrete but overlapping regions of the male reproductive tract and play a role in spermatozoa adhesion with Sertoli cells and oocytes, decapacitation, and the acrosomal reaction (1). Expression patterns, genomic structure, and sequence conservation indicate that the likely ortholog of human CRISP-1 in mouse and rat is CRISP-4 (5, 6). Mature mouse CRISP-1 shares 68% amino acid (aa) sequence identity with rat CRISP-1. It shares 55%, 73%, and 43% aa sequence identity with mouse CRISP-2, -3, and -4, respectively. Rodent CRISP-1 is secreted by the epididymal epithelium and associates with the surface of spermatozoa in the epididymis where it inhibits capacitation (7-9). It is released from the sperm cell surface once capacitation begins in the female reproductive tract or *in vitro* (10). CRISP-1 is involved in the interaction of spermatozoa with the oocyte zona pellucida as well as in the fusion of sperm and egg (11, 12). CRISP-1 is additionally expressed in the lower medulla of hair shafts and under androgen control in the submandibular salivary glands of male mice (13-15).

References:

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