

CAP-18 (G-1): sc-166055



The Power to Question

BACKGROUND

Cathelicidins are a family of antimicrobial proteins found in the peroxidase-negative granules of neutrophils. Along with the family of proteins known as defensins, cathelicidins participate in the first line of defense by preventing local infection and systemic invasion of microbes. FALL-39 precursor (FALL-39 peptide antibiotic, cationic anti-microbial protein, CAMP, CAP-18, HSD26) is a cathelicidin anti-microbial protein that contains the antibacterial peptide LL-37 (amino acids 134-170). In contrast to the defensins, which are cysteine-rich peptides that fold in β -pleated sheets, LL-37 is a cysteine-free peptide that can adopt an amphipathic α -helical conformation. LL-37 binds to bacterial lipopolysaccharides (LPS) and is a potent chemotactic factor for recruiting mast cells to sites of inflammation. LL-37 is present in inflammatory skin diseases that include psoriasis, sub-acute lupus erythematosus, dermatitis and nickel contact hypersensitivity. It is not found in normal skin epidermis. The secreted protein is expressed primarily in bone marrow, testis and neutrophils. The mouse and rat ortholog, CRAMP (cathelin-related antimicrobial peptide), is also part of the cathelicidin family of host defense peptides. These include precursors of potent antimicrobial peptides that direct antimicrobial activity against various microbial pathogens and also activate mesenchymal cells during wound repair. CRAMP is expressed in testis, spleen, stomach and intestine.

REFERENCES

1. Popsueva, A.E., et al. 1996. A novel murine cathelin-like protein expressed in bone marrow. *FEBS Lett.* 391: 5-8.
2. Gallo, R.L., et al. 1997. Identification of CRAMP, a cathelin-related antimicrobial peptide expressed in the embryonic and adult mouse. *J. Biol. Chem.* 272: 13088-13093.

CHROMOSOMAL LOCATION

Genetic locus: Camp (mouse) mapping to 9 F2.

SOURCE

CAP-18 (G-1) is a mouse monoclonal antibody raised against amino acids 6-175 mapping at the C-terminus of CAP-18 of rat origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CAP-18 (G-1) is available conjugated to agarose (sc-166055 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166055 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166055 PE), fluorescein (sc-166055 FITC), Alexa Fluor® 488 (sc-166055 AF488), Alexa Fluor® 546 (sc-166055 AF546), Alexa Fluor® 594 (sc-166055 AF594) or Alexa Fluor® 647 (sc-166055 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166055 AF680) or Alexa Fluor® 790 (sc-166055 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

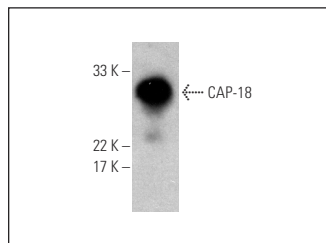
APPLICATIONS

CAP-18 (G-1) is recommended for detection of CAP-18 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

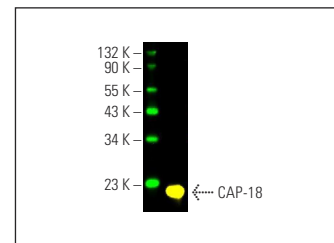
Suitable for use as control antibody for CAMP siRNA (m): sc-45283, CAMP shRNA Plasmid (m): sc-45283-SH and CAMP shRNA (m) Lentiviral Particles: sc-45283-V.

Molecular Weight of CAP-18: 20 kDa.

DATA



CAP-18 (G-1) HRP: sc-166055 HRP. Direct western blot analysis of CAP-18 expression in rat small intestine tissue extract.



CAP-18 (G-1) Alexa Fluor® 488: sc-166055 AF488. Direct fluorescent western blot analysis of CAP-18 expression in mouse small intestine tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 680: sc-516730.

SELECT PRODUCT CITATIONS

1. Hayashida, A., et al. 2015. 2-O-sulfated domains in Syndecan-1 heparan sulfate inhibit neutrophil cathelicidin and promote *Staphylococcus aureus* corneal infection. *J. Biol. Chem.* 290: 16157-16167.
2. Truax, A.D., et al. 2018. The inhibitory innate immune sensor NLRP12 maintains a threshold against obesity by regulating gut microbiota homeostasis. *Cell Host Microbe* 24: 364-378.e6.
3. Mohandas, S., et al. 2020. Ginkgolide-A attenuates bacterial translocation through activating PXR and improving antimicrobial peptide Reg 3A in experimental cirrhosis. *Life Sci.* 257: 118111.
4. Chen, K., et al. 2021. Requirement of CRAMP for mouse macrophages to eliminate phagocytosed *E. coli* through an autophagy pathway. *J. Cell Sci.* 134: jcs252148.
5. Wan, Q. 2024. Botulinum toxin type A ameliorates rat dorsal root ganglia neuron pyroptosis in postherpetic neuralgia by upregulating cathelicidin antimicrobial peptide to inhibit neutrophil elastase. *Chem. Biol. Drug Des.* 103: e14406.

RESEARCH USE

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

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