

# CAP-18 (H7): sc-130552

## 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. CAP-18 (also known as FALL-39 peptide antibiotic, cationic anti-microbial protein, CAMP or HSD26) is a 170 amino acid cathelicidin anti-microbial precursor protein that is proteolytically processed to yield the antibacterial peptide LL-37. In contrast to the defensins, which are cysteine-rich peptides that fold in  $\beta$ -pleated sheets, LL-37 is a cysteine-free peptide that can adopt an amphipathic  $\alpha$ -helical conformation. LL-37 binds to >bacterial lipopolysaccharides (LPS) and is a potent chemotactic factor for recruiting mast cells to sites of inflammation. While LL-37 is present in inflammatory skin diseases that include psoriasis, subacute lupus erythematosus, dermatitis and nickel contact hypersensitivity, it is not found in normal epidermal tissue.

## REFERENCES

1. Cowland, J.B., et al. 1995. hCAP-18, a cathelin/pro-bactenecin-like protein of human neutrophil specific granules. *FEBS Lett.* 368: 173-176.
2. Larrick, J.W., et al. 1995. Human CAP18: a novel antimicrobial lipopolysaccharide-binding protein. *Infect. Immun.* 63: 1291-1297.
3. Larrick, J.W., et al. 1996. Structural, functional analysis and localization of the human CAP18 gene. *FEBS Lett.* 398: 74-80.
4. Sorensen, O.E., et al. 2001. Human cathelicidin, hCAP-18, is processed to the antimicrobial peptide LL-37 by extracellular cleavage with proteinase 3. *Blood* 97: 3951-3959.
5. Nagaoka, I., et al. 2001. Cathelicidin family of antibacterial peptides CAP18 and CAP11 inhibit the expression of TNF- $\alpha$  by blocking the binding of LPS to CD14<sup>+</sup> cells. *J. Immunol.* 167: 3329-3338.

## CHROMOSOMAL LOCATION

Genetic locus: CAMP (human) mapping to 3p21.31.

## SOURCE

CAP-18 (H7) is a mouse monoclonal antibody raised against amino acids 115-121 of integral membrane protein from neutrophils of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CAP-18 (H7) is available conjugated to agarose (sc-130552 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130552 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130552 PE), fluorescein (sc-130552 FITC), Alexa Fluor<sup>®</sup> 488 (sc-130552 AF488), Alexa Fluor<sup>®</sup> 546 (sc-130552 AF546), Alexa Fluor<sup>®</sup> 594 (sc-130552 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-130552 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-130552 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-130552 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

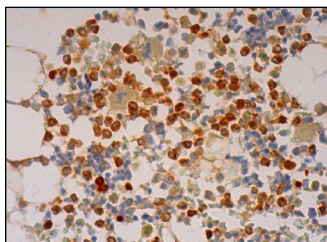
CAP-18 (H7) is recommended for detection of CAP-18 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Molecular Weight of CAP-18: 16 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CAP-18 (H7): sc-130552. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and membrane staining of subset of hematopoietic cells.

## SELECT PRODUCT CITATIONS

1. Barna, B.P., et al. 2012. Alveolar macrophage cathelicidin deficiency in severe sarcoidosis. *J. Innate Immun.* 4: 569-578.
2. Guo, L., et al. 2014. *Helicobacter pylori* induces increased expression of the vitamin D receptor in immune responses. *Helicobacter* 19: 37-47.

## 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](http://www.scbt.com) for detailed protocols and support products.