

# $\alpha$ -defensin 4 (R-19): sc-25875

## BACKGROUND

Human neutrophil alpha-defensins (also designated HNP) are small, cationic, cysteine-rich antimicrobial proteins that play important roles in innate immunity against infectious microbes such as bacteria, fungi and enveloped viruses. Alpha-defensins are synthesized as inactive precursors and are activated by proteolytic cleavage by MMP-7. Paneth cells in small intestinal crypts secrete the alpha-defensins, which are also termed cryptidins in mice. The cryptidin-4 gene is unique among the Paneth cell alpha defensins in that it is inactive in the duodenum, but expressed at maximal levels in the distal small bowel.

## REFERENCES

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2. Ayabe, T., et al. 2002. Activation of Paneth cell alpha-defensins in mouse small intestine. *J. Biol. Chem.* 277: 5219-5228. PMID: 11733520
3. Wu, Z., et al. 2003. From pro defensins to defensins: synthesis and characterization of human neutrophil pro alpha-defensin-1 and its mature domain. *J. Pept. Res.* 62: 53-62.
4. Nam, M.J., et al. 2004. Identification of defensin alpha 6 as a potential biomarker in colon adenocarcinoma. *J. Biol. Chem.* PMID 15613481
5. Maemoto, A., et al. 2004. Functional analysis of the alpha-defensin disulfide array in mouse cryptidin-4. *J. Biol. Chem.* 279: 44188-44196. PMID 15297466
6. Wu, Z., et al. 2005. Human neutrophil alpha-defensin 4 inhibits HIV-1 infection *in vitro*. *FEBS Letts.* 579: 162-166. PMID 15620707

## SOURCE

$\alpha$ -defensin 4 (R-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of  $\alpha$ -defensin 4 of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-25875 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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) or our catalog for detailed protocols and support products.

## APPLICATIONS

$\alpha$ -defensin 4 (R-19) is recommended for detection of  $\alpha$ -defensin 4 precursor and mature chain and, to a lesser extent,  $\alpha$ -defensins 1, 2, 3 and 5 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.