SANTA CRUZ BIOTECHNOLOGY, INC.

# α-defensin 5 (L-13): sc-25877

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Human neutrophil α-defensins (also designated HNPs) are small, cationic, cysteine-rich antimicrobial proteins that play important roles in innate immunity against infectious microbes such as bacteria, fungi and enveloped viruses. α-defensins are synthesized as inactive precursors and are activated by proteolytic cleavage by MMP-7. Paneth cells in small intestinal crypts secrete the α-defensins, which are also termed cryptidins in mice. α-defensins 5 and 6 probably contribute to innate defense of the GI mucosal surface by protecting against microbial invasion in states of intestinal inflammation.

## REFERENCES


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2. Frye, M., et al. 2000. Expression of human α-defensin 5 (HD5) mRNA in nasal and bronchial epithelial cells. J. Clin. Pathol. 53: 770-773.
3. Ayabe, T., et al. 2002. Activation of paneth cell α-defensins in mouse small intestine. J. Biol. Chem. 277: 5219-5228.
4. Cunliffe, R.N., 2003. α-defensins in the gastrointestinal tract. Mol. Immunol. 40: 463-467.
5. Wu, Z., et al. 2003. From pro defensins to defensins: synthesis and characterization of human neutrophil pro α-defensin-1 and its mature domain. J. Pept. Res. 62: 53-62.
6. Maemoto, A., et al. 2004. Functional analysis of the α-defensin disulfide array in mouse cryptdin-4. J. Biol. Chem. 279: 44188-44196.
7. Nam, M.J., et al. 2004. Identification of defensin α 6 as a potential biomarker in colon adenocarcinoma. J. Biol. Chem. 280: 8260-8265.
8. Wu, Z., et al. 2005. Human neutrophil α-defensin 4 inhibits HIV-1 infection *in vitro*. FEBS Lett. 579: 162-166.
9. Buck, C.B., et al. 2006. Human α-defensins block papillomavirus infection. Proc. Natl. Acad. Sci. USA 103: 1516-1521.


## CHROMOSOMAL LOCATION

Genetic locus: DEFA5 (human) mapping to 8p23.1.

## SOURCE

α-defensin 5 (L-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of α-defensin 5 of human origin.

## STORAGE

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

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-25877 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

α-defensin 5 (L-13) is recommended for detection of α-defensin 5 of 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), immunohistochemistry (including paraffin-embedded sections) (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 α-defensin 5 siRNA (h): sc-72025, α-defensin 5 shRNA Plasmid (h): sc-72025-SH and α-defensin 5 shRNA (h) Lentiviral Particles: sc-72025-V.

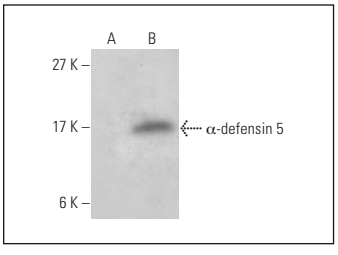
Molecular Weight of α-defensin 5: 12 kDa.

Positive Controls: α-defensin 5 (h): 293T Lysate: sc-371609.

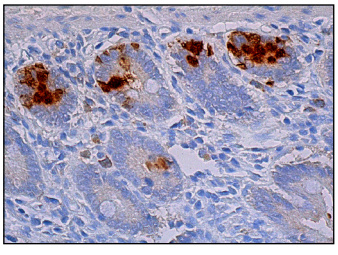
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA




α-defensin 5 (L-13): sc-25877. Western blot analysis of α-defensin 5 expression in non-transfected: sc-117752 (**A**) and human α-defensin 5 transfected: sc-371609 (**B**) 293T whole cell lysates.



α-defensin 5 (L-13): sc-25877. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing secretory granule staining of paneth cells.

## RESEARCH USE

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