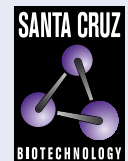


α -defensin 5 (8c8): sc-53997



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

- Ouellette, A.J., et al. 1999. Peptide localization and gene structure of cryptdin 4, a differentially expressed mouse paneth cell α -defensin. *Infect. Immun.* 67: 6643-6651.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

α -defensin 5 (8c8) is a mouse monoclonal antibody raised against recombinant α -defensin 5 of human origin.

PRODUCT

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

α -defensin 5 (8c8) is available conjugated to agarose (sc-53997 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53997 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53997 PE), fluorescein (sc-53997 FITC), Alexa Fluor[®] 488 (sc-53997 AF488), Alexa Fluor[®] 546 (sc-53997 AF546), Alexa Fluor[®] 594 (sc-53997 AF594) or Alexa Fluor[®] 647 (sc-53997 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-53997 AF680) or Alexa Fluor[®] 790 (sc-53997 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

α -defensin 5 (8c8) 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 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

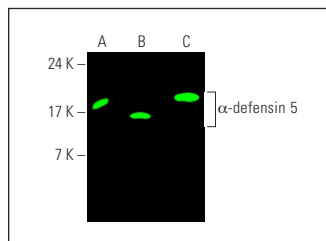
Molecular Weight of α -defensin 5: 12 kDa.

Positive Controls: RKO whole cell lysate: sc-364793, T84 whole cell lysate: sc-364797 or HCT-116 whole cell lysate: sc-364175.

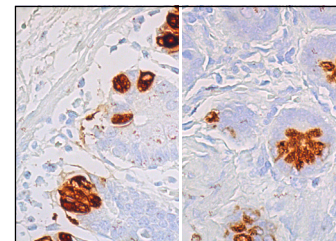
STORAGE

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

DATA



α -defensin 5 (8c8) Alexa Fluor[®] 680: sc-53997 AF680. Direct near-infrared western blot analysis of α -defensin 5 expression in RKO (A), T84 (B) and HCT-116 (C) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214.



α -defensin 5 (8c8): sc-53997. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of Paneth cells (A) and human colon tissue showing cytoplasmic staining of Paneth cells (B). Blocked with 0.25X UltraCruz[®] Blocking Reagent: sc-516214. Detection reagents used: m-IgGk BP-B: sc-516142 and ImmunoCruz[®] ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

- Korkeila, E.A., et al. 2011. Preoperative radiotherapy modulates Ezrin expression and its value as a predictive marker in patients with rectal cancer. *Hum. Pathol.* 42: 384-392.
- Santamaria, M.H., et al. 2016. Unmethylated CpG motifs in *Toxoplasma gondii* DNA induce TLR9- and IFN- β -dependent expression of α -defensin 5 in intestinal epithelial cells. *Parasitology* 143: 60-68.
- Williams, A.D., et al. 2017. Human α defensin 5 is a candidate biomarker to delineate inflammatory bowel disease. *PLoS ONE* 12: e0179710.
- Park, C.S., et al. 2020. Development of colonic organoids containing enteric nerves or blood vessels from human embryonic stem cells. *Cells* 9: 2209.
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- Uemura, I., et al. 2024. Establishment of an *in-vitro* inflammatory bowel disease model using immunological differentiation of Caco-2 cells. *MethodsX* 13: 102952.
- Thangaiyan, R., et al. 2025. Functional characterization of novel anti-DEFA5 monoclonal antibody clones 1A8 and 4F5 in inflammatory bowel disease colitis tissues. *Inflamm. Res.* 74: 30.

RESEARCH USE

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