SANTA CRUZ BIOTECHNOLOGY, INC.

β-defensin 112 (C-19): sc-137429



The Power to Question

BACKGROUND

 β -defensins (also designated BDs, or hBDs in human) are small cationic peptides with broad-spectrum antimicrobial activity against a variety of enveloped viruses, fungi and bacteria. Produced in mucosal epithelia and neutrophils of several species, β -defensins are developmentally regulated. The family of β -defensin proteins share a common defensin-motif that is characterized by multiple cysteine residues and a highly conserved tertiary structure. Besides playing a significant role in host immune defense, many β -defensins also are involved in sperm maturation and capacitation. β -defensin 112 is a 113 amino acid secreted protein that has antibacterial activity.

REFERENCES

- Jia, H.P., Mills, J.N., Barahmand-Pour, F., Nishimura, D., Mallampali, R.K., Wang, G., Wiles, K., Tack, B.F., Bevins, C.L. and McCray, P.B. 1999. Molecular cloning and characterization of rat genes encoding homologues of human β-defensins. Infect. Immun. 67: 4827-4833.
- Jia, H.P., Schutte, B.C., Schudy, A., Linzmeier, R., Guthmiller, J.M., Johnson, G.K., Tack, B.F., Mitros, J.P., Rosenthal, A., Ganz, T. and McCray, P.B. 2001. Discovery of new human β-defensins using a genomics-based approach. Gene 263: 211-218.
- Kao, C.Y., Chen, Y., Zhao, Y.H. and Wu, R. 2003. ORFeome-based search of airway epithelial cell-specific novel human β-defensin genes. Am. J. Respir. Cell Mol. Biol. 29: 71-80.
- 4. Patil, A.A., Cai, Y., Sang, Y., Blecha, F. and Zhang, G. 2005. Cross-species analysis of the mammalian β -defensin gene family: presence of syntenic gene clusters and preferential expression in the male reproductive tract. Physiol. Genomics 23: 5-17.
- 5. 1. Radhakrishnan, Y., Hamil, K.G., Yenugu, S., Young, S.L., French, F.S. and Hall, S.H. 2005. Identification, characterization, and evolution of a primate β -defensin gene cluster. Genes Immun. 6: 203-210.
- Kouno, T., Fujitani, N., Mizuguchi, M., Osaki, T., Nishimura, S., Kawabata, S., Aizawa, T., Demura, M., Nitta, K. and Kawano, K. 2008. A novel β-defensin structure: a potential strategy of big defensin for overcoming resistance by Gram-positive bacteria. Biochemistry 47: 10611-10619.
- Hosaka, Y., Koslowski, M., Nuding, S., Wang, G., Schlee, M., Schäfer, C., Saigenji, K., Stange, E.F. and Wehkamp, J. 2008. Antimicrobial host defense in the upper gastrointestinal tract. Eur. J. Gastroenterol. Hepatol. 20: 1151-1158.
- Abedin, A., Mohammed, I., Hopkinson, A. and Dua, H.S. 2008. A novel antimicrobial peptide on the ocular surface shows decreased expression in inflammation and infection. Invest. Ophthalmol. Vis. Sci. 49: 28-33.
- Diamond, G., Beckloff, N. and Ryan, L.K. 2008. Host defense peptides in the oral cavity and the lung: similarities and differences. J. Dent. Res. 87: 915-927.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: DEFB112 (human) mapping to 6p12.3.

SOURCE

 β -defensin 112 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of β -defensin 112 of human origin.

PRODUCT

Each vial contains 100 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-137429 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

 β -defensin 112 (C-19) is recommended for detection of β -defensin 112 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other β -defensin family members.

Suitable for use as control antibody for β -defensin 112 siRNA (h): sc-95409, β -defensin 112 shRNA Plasmid (h): sc-95409-SH and β -defensin 112 shRNA (h) Lentiviral Particles: sc-95409-V.

Molecular Weight of β -defensin 112: 13 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunofluo-rescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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