SANTA CRUZ BIOTECHNOLOGY, INC.

β-defensin 5 (G-13): sc-69162



BACKGROUND

 β -defensins (also designated BDs) are small cationic peptides that are produced in mucosal epithelia and neutrophils and are developmentally regulated. β -defensin 5, also known as DEFB105A, DEFB105B, DEFB5 or BD5, is a 78 amino acid secreted protein that is expressed specifically in testis and, like other β -defensins, exhibits anti-microbial activity. The gene encoding β -defensin 5 maps to human chromosome 8 and exists as a duplicated gene, arranged in a tail-to-tail orientation. Consisting of nearly 146 million base pairs, chromosome 8 encodes over 800 genes and is associated with a variety of diseases and malignancies. Schizophrenia, bipolar disorder, Trisomy 8, Pfeiffer syndrome, congenital hypothyroidism, Waardenburg syndrome and some leukemias and lymphomas are thought to occur as a result of defects in specific genes that maps to chromosome 8.

REFERENCES

- 1. Yamaguchi, Y., Nagase, T., Makita, R., Fukuhara, S., Tomita, T., Tominaga, T., Kurihara, H. and Ouchi, Y. 2002. Identification of multiple novel epididymisspecific β -defensin isoforms in humans and mice. J. Immunol. 169: 2516-2523.
- 2. Schutte, B.C., Mitros, J.P., Bartlett, J.A., Walters, J.D., Jia, H.P., Welsh, M.J., Casavant, T.L. and McCray, P.B. 2002. Discovery of five conserved β -defensin gene clusters using a computational search strategy. Proc. Natl. Acad. Sci. U.S.A. 99: 2129-2133.
- 3. Hollox, E.J., Armour, J.A. and Barber, J.C. 2003. Extensive normal copy number variation of a β -defensin antimicrobial-gene cluster. Am. J. Hum. Genet. 73: 591-600.
- 4. Semple, C.A., Rolfe, M. and Dorin, J.R. 2003. Duplication and selection in the evolution of primate β -defensin genes. Genome Biol. 4: R31.
- Taudien, S., Galgoczy, P., Huse, K., Reichwald, K., Schilhabel, M., Szafranski, K., Shimizu, A., Asakawa, S., Frankish, A., Loncarevic, I.F., Shimizu, N., Siddiqui, R. and Platzer, M. 2004. Polymorphic segmental duplications at 8p23.1 challenge the determination of individual defensin gene repertoires and the assembly of a contiguous human reference sequence. BMC Genomics 5: 92.
- Boniotto, M., Ventura, M., Eskdale, J., Crovella, S. and Gallagher, G. 2004. Evidence for duplication of the human defensin gene DEFB4 in chromosomal region 8p22-23 and implications for the analysis of SNP allele distribution. Genet. Test. 8: 325-327.
- 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.

STORAGE

Store at 4° C, **D0 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.

CHROMOSOMAL LOCATION

Genetic locus: DEFB105A (human) mapping to 8p23.1.

SOURCE

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

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-69162 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

 β -defensin 5 (G-13) is recommended for detection of β -defensin 5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β -defensin 5 siRNA (h): sc-77128, β -defensin 5 shRNA Plasmid (h): sc-77128-SH and β -defensin 5 shRNA (h) Lentiviral Particles: sc-77128-V.

Molecular Weight of β -defensin 5: 9 kDa.

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) Immunofluo-rescence: 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.

RESEARCH USE

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