

# β-defensin 3 (L3-18b-E1): sc-59495

## BACKGROUND

β-defensins (also designated BD, and hBD in human) are small cationic peptides with broad-spectrum antimicrobial activity. Produced in mucosal epithelia and neutrophils of several species, β-defensins are developmentally regulated. Human β-defensin 2 is locally regulated by inflammation and is the first member of the β-defensin family that is locally inducible by inflammation. The murine homolog of human β-defensin 2, which is called β-defensin 3, is present in the respiratory system and in low levels in the epithelial cells of the intestine and lung. The unique murine β-defensin 2 (Defβ2) is not expressed in airways of untreated mice, but is upregulated in the airways by lipopolysaccharide and may contribute to host defense at the mucosal surface of the airways.

## REFERENCES

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2. Liu, L., Zhao, C., Heng, H.H. and Ganz, T. 1997. The human β-defensin and α-defensins are encoded by adjacent genes: two peptide families with differing disulfide topology share a common ancestry. *Genomics* 43: 316-320.
3. Liu, L., Wang, L., Jia, H.P., Zhao, C., Heng, H.H., Schutte, B.C., McCray, P.B., Jr. and Ganz, T. 1998. Structure and mapping of the human β-defensin HBD-2 gene and its expression at sites of inflammation. *Gene* 222: 237-244.
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5. Yang, D., Chertov, O., Bykovskaia, S.N., Chen, Q., Buffo, M.J., Shogan, J., Anderson, M., Schroder, J.M., Wang, J.M., Howard, O.M. and Oppenheim, J.J. 1999. β-defensins: linking innate and adaptive immunity through dendritic and T cell CCR6. *Science* 286: 525-528.
6. Morrison, G.M., Davidson, D.J. and Dorin, J.R. 1999. A novel mouse β-defensin, Defβ2, which is upregulated in the airways by lipopolysaccharides. *FEBS Lett.* 442: 112-116.

## CHROMOSOMAL LOCATION

Genetic locus: DEFB103B (human) mapping to 8p23.1.

## SOURCE

β-defensin 3 (L3-18b-E1) is a mouse monoclonal antibody raised against amino acids 6-22 of β-defensin 3 of human origin.

## PRODUCT

Each vial contains 50 μg IgG<sub>1</sub> kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

β-defensin 3 (L3-18b-E1) is recommended for detection of β-defensin 3 of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β-defensin 3 siRNA (h): sc-43723, β-defensin 3 siRNA Plasmid (h): sc-43723-SH and β-defensin 3 siRNA (h) Lentiviral Particles: sc-43723-V.

Molecular Weight of β-defensin 3: 5 kDa.

## SELECT PRODUCT CITATIONS

1. Lindner, H.B., et al. 2011. Anti-bacterial effects of poly-N-acetylglucosamine nanofibers in cutaneous wound healing: requirement for Akt1. *PLoS ONE* 6: e18996.
2. Grether-Beck, S., et al. 2012. Urea uptake enhances barrier function and antimicrobial defense in humans by regulating epidermal gene expression. *J. Invest. Dermatol.* 132: 1561-1572.
3. Woodby, B., et al. 2021. Cutaneous antimicrobial peptides: new "actors" in pollution related inflammatory conditions. *Redox Biol.* 41: 101952.

## 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) for detailed protocols and support products.