

# β-defensin 2 (B 235-I): sc-59494

## 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

1. McCray, P.B., Jr. and Bentley, L. 1997. Human airway epithelia express a β-defensin. *Am. J. Respir. Cell Mol. Biol.* 16: 343-349.
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: DEFB4A (human) mapping to 8p23.1.

## SOURCE

β-defensin 2 (B 235-I) is a mouse monoclonal antibody raised against amino acids 4-41 of β-defensin 2 of human origin.

## PRODUCT

Each vial contains 50 μg IgG<sub>1</sub> 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 2 (B 235-I) is recommended for detection of synthetic β-defensin 2 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 2 siRNA (h): sc-43721, β-defensin 2 shRNA Plasmid (h): sc-43721-SH and β-defensin 2 shRNA (h) Lentiviral Particles: sc-43721-V.

Molecular Weight of β-defensin 2: 5 kDa.

## SELECT PRODUCT CITATIONS

1. Yano, S., Banno, T., Walsh, R. and Blumenberg, M. 2008. Transcriptional responses of human epidermal keratinocytes to cytokine interleukin-1. *J. Cell. Physiol.* 214: 1-13.
2. Karadag, R., Bayram, N., Oguztuzun, S., Bayramlar, H., Bozer, B., Simsek, G. and Rapuano, C.J. 2017. An investigation of human β-defensins and cathelicidin expression in patients with pterygium. *Arq. Bras. Oftalmol.* 80: 277-280.

## 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.