

β-defensin 2 (FL-64): sc-20798

BACKGROUND

β-defensins (also designated BD, and HBD in human) are small cationic peptides with broad-spectrum antimicrobial activity. β-defensins are involved in the resistance of epithelial surfaces, such as airway surface fluid, to microbial colonization. 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., et al. 1997. Human airway epithelia express a β-defensin. *Am. J. Respir. Cell Mol. Biol.* 16: 343-349.
2. Liu, L., et al. 1997. The human β-defensin 1 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., et al. 1998. Structure and mapping of the human β-defensin HBD-2 gene and its expression at sites of inflammation. *Gene* 222: 237-244.

CHROMOSOMAL LOCATION

Genetic locus: DEFEB4 (human) mapping to 8p23.1.

SOURCE

β-defensin 2 (FL-64) is a rabbit polyclonal antibody raised against amino acids 1-64 representing full length β-defensin 2 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.

APPLICATIONS

β-defensin 2 (FL-64) is recommended for detection of β-defensin 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 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.

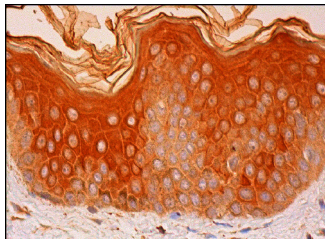
STORAGE

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

RESEARCH USE

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

DATA



β-defensin 2 (FL-64): sc-20798. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes.

SELECT PRODUCT CITATIONS

1. Di Cagno, R., et al. 2010. Synthesis of γ-aminobutyric acid (GABA) by *Lactobacillus plantarum* DSM19463: functional grape must beverage and dermatological applications. *Appl. Microbiol. Biotechnol.* 86: 731-741.
2. Kraus, D., et al. 2011. Human β-defensins differently affect proliferation, differentiation, and mineralization of osteoblast-like MG63 cells. *J. Cell. Physiol.* 227: 994-1003.
3. Pace, E., et al. 2011. TLR4 upregulation underpins airway neutrophilia in smokers with chronic obstructive pulmonary disease and acute respiratory failure. *Hum. Immunol.* 72: 54-62.
4. Pace, E., et al. 2012. β-defensin 2 is reduced in central but not in distal airways of smoker COPD patients. *PLoS ONE* 7: e33601.
5. Winter, J., et al. 2012. IGF-1 deficiency in combination with a low basic hBD-2 and hBD-3 gene expression might counteract malignant transformation in pleomorphic adenomas *in vitro*. *Cancer Invest.* 30: 106-113.
6. Muehleisen, B., et al. 2012. Distinct innate immune gene expression profiles in non-melanoma skin cancer of immunocompetent and immunosuppressed patients. *PLoS ONE* 7: e40754.
7. 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.
8. Alan, E. and Liman, N. 2012. Immunohistochemical localization of β defensins in the endometrium of rat uterus during the postpartum involution period. *Vet. Res. Commun.* 36: 173-185.

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Try **β-defensin 2 (2-RY8): sc-134314**, our highly recommended monoclonal alternative to β-defensin 2 (FL-64).