β-defensin 2 (2-RY8): sc-134314

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 (Defb2) 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.

4. Bals, R., et al. 1999. Mouse β-defensin 3 is an inducible antibicrobial peptide expressed in the epithelia of multiple genes. Infect. Immun. 67: 3542-3547.

5. Yang, D., et al. 1999. β-defensins: linking innate and adaptive immunity through dendritic and T cell CCR-6. Science 286: 525-528.

6. Morrison, G.M., et al. 1999. A novel mouse β-defensin, Defb2, which is upregulated in the airways by lipopolysaccharides. FEBS Lett. 442: 112-116.

CHROMOSOMAL LOCATION

Genetic locus: DEFB4 (human) mapping to 8p23.1.

SOURCE

β-defensin 2 (2-RY8) is a mouse monoclonal antibody raised against a partial recombinant fragment of β-defensin 2 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG$_1$ kappa light chain in 1.0 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.

PROTOCOLS

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

APPLICATIONS

β-defensin 2 (2-RY8) 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)] 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.

Positive Controls: human β-defensin 2 transfected 293T whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA
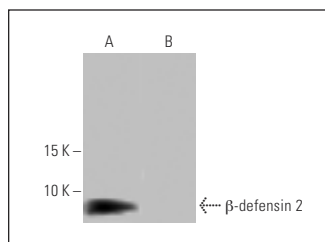
β-defensin 2 (2-RY8): sc-134314. Western blot analysis of β-defensin 2 expression in human β-defensin 2 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.

RESEARCH USE

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