

β-defensin 1 (N-20)-R: sc-10849-R

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. Produced in mucosal epithelia and neutrophils of several species, β-defensins are developmentally regulated. Human β-defensin 1, isolated from the kidney, shares homology with other β-defensins from human blood filtrate and is also present in nanomolar concentrations in human plasma. In addition to the antimicrobial activity of human airway epithelia, β-defensin 1 may play a role in the mucosal defenses of the lung.

REFERENCES

1. Benesch, K.W., et al. 1995. hBD-1: a novel β-defensin from human plasma. *FEBS Lett.* 368: 331-335.
2. McCray, P.B., Jr., et al. 1997. Human airway epithelia express a β-defensin. *Am. J. Respir. Cell Mol. Biol.* 16: 343-349.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: DEFB1 (human) mapping to 8p23.1.

SOURCE

β-defensin 1 (N-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of β-defensin 1 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-10849 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 1 (N-20)-R is recommended for detection of β-defensin 1 precursor 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with mature β-defensin 1.

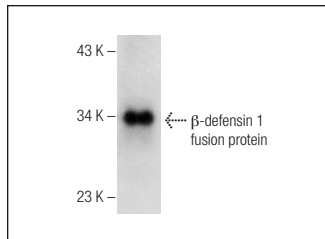
Suitable for use as control antibody for β-defensin 1 siRNA (h): sc-43720, β-defensin 1 shRNA Plasmid (h): sc-43720-SH and β-defensin 1 shRNA (h) Lentiviral Particles: sc-43720-V.

Molecular Weight of β defensin 1: 7.4 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



β-defensin 1 (N-20)-R: sc-10849-R. Western blot analysis of human recombinant β-defensin 1 fusion protein.

SELECT PRODUCT CITATIONS

1. Kutta, H., et al. 2002. The human false vocal folds — an analysis of antimicrobial defense mechanisms. *Anat. Embryol.* 205: 315-323.
2. Nakayama, K., et al. 2002. Acid stimulation reduces bactericidal activity of surface liquid in cultured human airway epithelial cells. *Am. J. Respir. Cell Mol. Biol.* 26: 105-113.
3. Lu, Q., et al. 2004. Expression of human β-defensins 1 and 2 peptides in unresolved chronic periodontitis. *J. Periodontal. Res.* 39: 221-227.
4. Lu, Q., et al. 2006. Hyphal invasion of *Candida albicans* inhibits the expression of human β-defensins in experimental oral candidiasis. *J. Invest. Dermatol.* 126: 2049-2056.
5. Garreis, F., et al. 2010. Roles of human β-defensins in innate immune defense at the ocular surface: arming and alarming corneal and conjunctival epithelial cells. *Histochem. Cell Biol.* 134: 59-73.

RESEARCH USE

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


 MONOS
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Try **β-defensin 1 (M4-14b-H4): sc-65501**, our highly recommended monoclonal alternative to β-defensin 1 (N-20).