

# β-defensin 1 (hBA-47): sc-4834

## 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, has a molecular mass of 3.9 kDa. Human β-defensin 1 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

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4. Bals, R., Wang, X., Meegalla, R.L., Wattler, S., Weiner, D.J., Nehls, M.C., and Wilson, J.M. 1999. Mouse beta-defensin 3 is an inducible anti-microbial peptide expressed in the epithelia of multiple genes. *Infect. Immun.* 67: 3542-3547.
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## CHROMOSOMAL LOCATION

Genetic locus: DEF1 (human) mapping to 8p23.2-p23.1; Defb1 (mouse) mapping to 8 A4.

## SOURCE

β-defensin 1 (hBA-47) is produced in *E. coli* as 5 kDa biologically active protein corresponding to 47 amino acids of β-defensin 1 of human origin.

## PRODUCT

β-defensin 1 (hBA-47) is purified from bacterial lysates (>98%); supplied as 20 μg purified protein.

## BIOLOGICAL ACTIVITY

β-defensin 1 (hBA-47) is biologically active as determined by its ability to chemoattract CCR6 transfected cells using a concentration range of 50-100 ng/ml.

## 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) or our catalog for detailed protocols and support products.

## RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryopreservative (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

## STORAGE

Store desiccated at -20° C; stable for one year from the date of shipment.