

# β-defensin 3 (hBA-45): sc-4836

## 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

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## CHROMOSOMAL LOCATION

Genetic locus: DEFβ103A (human) mapping to 8p23.1; Defβ14 (mouse) mapping to 8 A1.3.

## SOURCE

β-defensin 3 (hBA-45) is produced in *E. coli* as 32 kDa biologically active, GST-tagged fusion protein corresponding to 45 amino acids of β-defensin 3 of human origin.

## PRODUCT

β-defensin 3 (hBA-45) is purified from bacterial lysates (>98%); supplied as 50 μg purified protein.

## BIOLOGICAL ACTIVITY

β-defensin 3 (hBA-45) is biologically active as determined by antimicrobial activity against gram-positive bacteria *S. aureus* and gram-negative *P. aeruginosa* and *E. coli*.

## 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.

## 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.