

Recombinant Human DEFB104A protein

Cat. No. DEFB104A-26792TH Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human DEFB104A protein was expressed in Escherichia coli.
Species	Human
Source	E.coli
ProteinLength	50
Description	Defensins (alpha and beta) are cationic peptides with antimicrobial activity against Gram-negative and Gram-positive bacteria, fungi, and enveloped viruses. They are 2-6 kDa proteins and take important roles in innate immune system. On the basis of their size and pattern of disulfide bonding, mammalian defensins are classified into alpha, beta and theta categories. β-defensins contain a six-cysteine motif that forms three intra-molecular disulfide bonds. Four human β-defensins have been identified and they are expressed on some leukocytes and at epithelial surfaces. Because β-defensins is cationic peptides, they can therefore interact with the membrane of invading microbes, which are negative due to lipopolysaccharides (LPS) and lipoteichoic acid (LTA) found in the cell membrane. Especially, they have higher affinity to the binding site compared to Ca^{2+} and Mg^{2+} ions. Furthermore, they can affect the stability of the membrane.
Form	Lyophilized from a 0.2 μm filtered concentrated solution in 20 mM PB, pH 7.4, 130 mM NaCl.

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Bio-activity	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human monocytes is in a concentration range of 0.1-100.0 ng/ml.
Molecular Mass	Approximately 6.0 kDa, a single non-glycosylated polypeptide chain containing 50 amino acids.
AA Sequence	EFELDRICGYGTARCRKKCRSQEYRIGRCPNTYACCLRKWDESLNRTKP
Endotoxin	Less than 1 EU/g of rHuBD-4 as determined by LAL method.
Purity	>98% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤-20 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name	DEFB104A
Official Symbol	DEFB104A
Synonyms	DEFB104A; defensin, beta 104A; DEFB104, defensin, beta 104; beta-defensin 104;

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DEFB 4; DEFB4; beta-defensin 4; defensin, beta 4; BD-4; hBD-4; DEFB-4; DEFB104; DEFB104B; MGC118942; MGC118944; MGC118945;

Gene ID [140596](#)

mRNA Refseq [NM_080389](#)

Protein Refseq [NP_525128](#)

UniProt ID [Q8WTQ1](#)

**SDS-PAGE of
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