Recombinant Rat Defb4 protein

Cat. No. Defb4-598R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Defb4 protein was expressed in Escherichia coli.
Species	Rat
Source	E.coli
ProteinLength	41
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 are expressed on some leukocytes and at epithelial surfaces. They contain a six-cysteine motif that forms three intra-molecular disulfide bonds. Because β-defensins are 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 Ca2+ and Mg2+ ions. Furthermore, they can affect the stability of the membrane. Additionally, they are not only have the ability to strengthen the innate immune system but can also enhance the adaptive immune system by chemotaxis of monocytes, T-lymphocytes, dendritic cells and mast cells to the infection site.
Form	Lyophilized from a 0.2μm filtered concentrated solution in 10 mM PB, pH 7.4, 500 mM

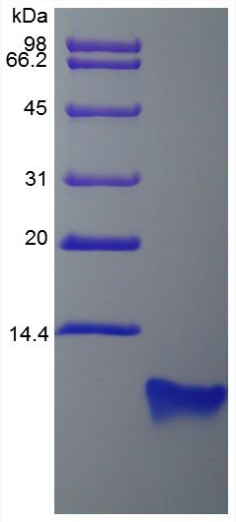
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	NaCl.
Bio-activity	Fully biologically active when compared to standard. The biologically active determined by a chemotaxis bioassay using human monocytes is in a concentration range of 0.1-100.0 ng/ml.
Molecular Mass	Approximately 4.4 kDa, a single non-glycosylated polypeptide chain containing 41 amino acids.
AA Sequence	QSINNPITCLTKGGVCWGPCTGGFRQIGTCGLPRVRCCKKK
Endotoxin	Less than 1 EU/μg of rRtBD-4 as determined by LAL method.
Purity	>95% 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	Defb4
Official Symbol	Defb4

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Synonyms	Defensin beta4
Gene ID	64389
mRNA Refseq	NM_022544
Protein Refseq	NP_071989
UniProt ID	O88514
SDS-PAGE of Defb4-598R	

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