

Defb2

Recombinant Mouse Beta Defensin-2

Catalog No.	CS496A	Quantity:	5 µg
	CS496B		20 µg
	CS496C		1 mg

Alternate Names: BD-2, defensin beta 2

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 k Da 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.

Recombinant Mouse Beta Defensin-2 is a single non-glycosylated polypeptide chain containing 51 amino acids.

Gene ID: 13215

Source: *E. coli*

Molecular Weight: 5.54 kDa

Formulation: Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

Purity: >98 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: <1 EU/µg as determined by LAL method.

Biological Activity: Fully biologically active when compared to standard. The biologically active determined by a chemotaxis bioassay using immature human dendritic cells is in a concentration of 10-100 ng/ml.

Amino Acid Sequence: AVGSLKSIKY EAELDHCHT N GGYCVRAICP PSARRPGSCF PEKNPCCKYM K

Reconstitution: **Centrifuge vial prior to opening.** Add sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. This depends upon the particular application employed. Further dilutions should be made in appropriate buffered solutions.

Storage & Stability: This lyophilized preparation is stable at 2-8°C, but should be kept desiccated at -20°C for long term storage. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -80°C. **Avoid repeated freeze/thaw cycles.**

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