

Growth Factor Data Sheet

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Murine beta-defensin 2 (DEFB2) is an antimicrobial peptide that contributes to the innate immune system and is active against gram-negative bacteria, fungi, and viruses. It also contributes to the adaptive immune system through recruitment of leukocytes to sites of infection through chemotaxis. Like the other β -defensins, DEFB2 is a small protein that contains a motif consisting of six cysteine residues which form three intramolecular disulfide bridges. It is expressed in the epithelia of skin and organs in the genitourinary tract, as well as in monocytes and macrophages. Expression is induced by 1,25-dihydroxyvitamin D₃, LPS, and proinflammatory cytokines, such as IL1B and IFNG, and downregulated by the anti-inflammatory steroid dexamethasone. DEFB2 expression is also induced by exposure to low M.W. hyaluronic acid fragments, which is common following inflammation or tissue injury. DEFB2 is a cationic peptide that disrupts the membranes of invading microbes, which are negatively charged due to the presence of lipopolysaccharides (LPS) or lipoteichoic acid (LTA). In mice that have had the *Defb2* gene silenced, inducible NO synthase expression was elevated. DEFB2 works in combination with DEFB3 to contribute to resistance against corneal infection. Inhibition of DEFB2 by high salt concentration may play a role in the pathogenesis of cystic fibrosis.

Catalog Number	1390-02
Product Name	DEFB2, Murine Recombinant Murine Defensin, Beta 2 BD2, DEFB-2, MBD-2
Source	<i>Escherichia coli</i>
MW	~5.5 kDa (51 amino acids)
Sequence	AVGSLKISIGY EAELDHCHTN GGYCVRAICP PSARRPGSCF PEKNPCKCKYM K
Accession Number	P82020
Purity	>98% by SDS-PAGE and HPLC analyses
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.
Formulation	Sterile filtered white lyophilized powder. Purified and tested for use in cell culture.
Storage/Handling	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage. The reconstituted sample can be apportioned into working aliquots and stored at -80 °C for up to 6 months. Avoid repeated freeze/thaw cycles.
Reconstitution	The sample should be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a siliconized tube using PBS that contains a 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Reconstituted solutions are stable for up to one week at 2-8°C. Stock solutions should be aliquoted and stored at -80°C. Further dilutions should be made in appropriate buffered solutions containing BSA or serum.