DEFENSIN ALPHA 1 (DEFA1B) HUMAN Active Protein

PRODUCT OVERVIEW

Product Name	DEFENSIN ALPHA 1 (DEFA1B), Active Protein
Full Product Name	RECOMBINANT HUMAN DEFENSIN ALPHA 1
Product Gene Name	DEFA1B active protein
Form/Format	Purified recombinant protein - lyophilised
Purity/Purification	>98% by SDS PAGE and HPLC analysis
Concentration	Approximate Protein Concentration: 0.1mg/ml after reconstitution (lot specific)
Preparation and Storage	Prior to reconstitution store at 4 degree C. After reconstitution store at -20 degree C. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use. Shelf Life: 3 months from date of reconstitution.
Molecular Weight	3.4kD (30 amino acid residues)
OMIM	125220
3D Structure	ModBase 3D Structure for P59665
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Reconstitution	Reconstitute with 0.2ml distilled water. Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. MyBioSource recommends that the vial is gently mixed after reconstitution. Preparation||Purified recombinant defensin-alpha-1 expressed in E Coli
Activity	Determined by its ability to chemoattract immature dendritic cells using a concentration of 1.0-10.0 ng/ml.
Target Species	Human
Applications Tested/Suitable for DEFA1B active protein	ELISA (EIA), Functional Assays (FN), Western Blot (WB)
Application Notes for DEFA1B active protein	ELISA: Recombinant human defensin-alpha-1 may be used as a standard for ELISA applications with either a purified anti human defensin-alpha-1 antibody or a biotinylated anti human defensin-alpha-1 antibody. Western Blot: Recombinant human defensin-alpha-1 may be used as a positive control for Western Blotting applications with either a purifed human defensin-alpha-1 antibody or a biotinylated human defensin-alpha-1 antibody. **ELISA:** Minimum Dilution: 0.2; Maximum Dilution: 0.4ng/well **Western Blotting:** Minimum Dilution: 1.5; Maximum Dilution: 3.0ng/lane
Related Product Information for DEFA1B active protein	Recombinant Human Defensin-alpha-1 is a 3.4kDa peptide comprised of 30 amino acid residues corresponding to full-length mature human defenstin alpha 1. Defensin-alpha-1, otherwise known as HNP-1, is a secreted cationic antimicrobial peptide and member of the alpha-defensin family, which plays an important role in the innate immune response against microbial infections.
Other Notes	Small volumes of DEFA1B active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for DEFA1B purchase	MBS232451 is an active protein targeting DEFA1B. Also known as RECOMBINANT HUMAN DEFENSIN ALPHA 1.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for DEFA1B. It may not necessarily be applicable to this product.

NCBI GI #	124248516
NCBI GeneID	728358
NCBI Accession #	NP_001035965.1
UniProt Primary Accession #	P59665
UniProt Secondary Accession #	P11479; Q14125; Q6EZF6
UniProt Related Accession #	P59665
GenBank Nucleotide #	NM_001042500.1
NCBI Official Full Name	neutrophil defensin 1 isoform 2 preproprotein
NCBI Official Synonym Full Names	defensin, alpha 1B
NCBI Official Symbol	DEFA1B
NCBI Official Synonym Symbols	HP1; HP-1; HNP-1
UniProt Protein Name	Neutrophil defensin 1
UniProt Synonym Protein Names	Defensin, alpha 1; HNP-1; HP-1; HP1
Protein Family	Neutrophil defensin
UniProt Gene Name	DEFA1
UniProt Synonym Gene Names	DEF1; DEFA2; MRS; HP-1; HP1; HP-2; HP2
UniProt Entry Name	DEF1_HUMAN
NCBI Protein Information	neutrophil defensin 1
NCBI Summary for DEFA1B	Defensins are a family of antimicrobial and cytotoxic peptides thought to be involved in host defense. They are abundant in the granules of neutrophils and also found in the epithelia of mucosal surfaces such as those of the intestine, respiratory tract, urinary tract, and vagina. Members of the defensin family are highly similar in protein sequence and distinguished by a conserved cysteine motif. The protein encoded by this gene, defensin, alpha 1, is found in the microbicidal granules of neutrophils and likely plays a role in phagocyte-mediated host defense. Several alpha defensin genes are clustered on chromosome 8. This gene differs from defensin, alpha 3 by only one amino acid. This gene and the gene encoding defensin, alpha 3 are both subject to copy number variation. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2014]
UniProt Comments for DEFA1B	defensin, alpha 1: Defensin 1 and defensin 2 have antibacterial, fungicide and antiviral activities. Has antimicrobial activity against Gram- negative and Gram-positive bacteria. Defensins are thought to kill microbes by permeabilizing their plasma membrane. Belongs to the alpha-defensin family. Protein type: Secreted; Secreted, signal peptide Chromosomal Location of Human Ortholog: 8p23.1 Cellular Component: extracellular matrix; extracellular space; Golgi lumen; extracellular region Biological Process: defense response to Gram-positive bacterium; estrogen receptor signaling pathway; innate immune response in mucosa; killing of cells of another organism; antibacterial humoral response; innate immune response; immune response; chemotaxis; defense response to virus; defense response to fungus
Research Articles on DEFA1B	**1.** DEFA1B encodes an antibacterial peptide that is bacteriocidal against S. aureus, E. coli, and P. aeruginosa.
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