

Recombinant Human DEF1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50254

Size: 10ug, 100ug

Protein Name: Neutrophil defensin 1 (Defensin, alpha 1) (HNP-1) (HP-1) (HP1) [Cleaved into: HP 1-56; Neutrophil defensin 2 (HNP-2) (HP-2) (HP2)]

Synonym: DEFA1, DEF1, DEFA2, MRS,, DEFA1B

UniProt ID: P59665

UniProt Link: www.uniprot.org/uniprotkb/P59665/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 94 AA

Molecular Weight: 10 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRTLAILAAILLVALQAQAEPLQARADEVAAAPEQIAADIPEVVVSLAWDESLAPKHPGSRKNMACYC
RIPACIAGERRYGTCTIYQGRLWAFCC

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Neutrophil defensin 1 (Defensin, alpha 1) (HNP-1) (HP-1) (HP1) [Cleaved into: HP 1-56; Neutrophil defensin 2 (HNP-2) (HP-2) (HP2)] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Effector molecule of the innate immune system that acts via antibiotic-like properties against a broad array of infectious agents including bacteria, fungi, and viruses or by promoting the activation and maturation of some APCs (PubMed:15616305, PubMed:17142766, PubMed:20220136, PubMed:24236072). Interacts with the essential precursor of cell wall synthesis lipid II to inhibit bacterial cell wall synthesis (PubMed:20214904). Inhibits adenovirus infection via inhibition of viral disassembly at the vertex region, thereby restricting the release of internal capsid protein pVI, which is required for endosomal membrane penetration during cell entry (PubMed:18191790). In addition, interaction with adenovirus capsid leads to the redirection of viral particles to TLR4 thereby promoting a NLRP3-mediated inflammasome response and interleukin 1-beta (IL-1beta) release (PubMed:35080426). Induces the production of proinflammatory cytokines including type I interferon (IFN) in plasmacytoid dendritic cells (pDCs) by triggering the degradation of NFkBIA and nuclear translocation of IRF1, both of which are required for activation of pDCs (PubMed:27031443).

Subcellular Localization: Secreted.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.