Data Sheet (Cat.No.TMPY-02835)

TargetMol

DEFB103A Protein, Human, Recombinant (His)

General Information

Synonyms:	DEFB3;HBP3;defensin, beta 103A;hBD-3;DEFB103;DEFB-3;HBD3;HBP-3;β Defensin 3/DEFB103A;defensin, β103A;BD-3
Protein Construction:	A DNA sequence encoding the mature form of human DEFB103A (P81534) (Gly 23-Lys 67) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P81534
Molecular Weight:	7.3 kDa (predicted); 12 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 0.3% Ttiton X-100, 0.3% SKL, pH 8.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Beta-defensin 3 is a member of the defensin family. Defensin family is comprised by microbicidal and cytotoxic peptides made by neutrophils. Members of the beta-defensin 3 family are highly similar in protein sequence. Beta-defensin 3 shows antimicrobial activity against Gram-positive bacteria S.aureus and S.pyogenes, Gram-negative bacteria P.aeruginosa and E.coli and the yeast C.albicans. Beta-defensin 3 is abundantly expressed in

skin and tonsils, and to a lesser extent in trachea, uterus, kidney, thymus, adenoid, pharynx and tongue. It is also expressed in salivary gland, bone marrow, colon, stomach, polyp and larynx. However, in small intestine, it cannot be detected. Defensin has broad spectrum antimicrobial activity and may play an important role in innate epithelial defense. Beta-defensin 3 kills multiresistant S.aureus and vancomycin-resistent E.faecium. It has no significant hemolytic activity.

Reference

Garca JR, et al. (2002) Identification of a novel, multifunctional beta-defensin (human beta-defensin 3) with specific antimicrobial activity. Its interaction with plasma membranes of Xenopus oocytes and the induction of macrophage chemoattraction. Cell Tissue Res. 306(2):257-64.

Dunsche A, et al. (2002) The novel human beta-defensin-3 is widely expressed in oral tissues. Eur J Oral Sci. 110(2): 121-4.

Abiko Y, et al. (2004) Upregulated expression of human beta defensin-1 and -3 mRNA during differentiation of keratinocyte immortalized cell lines, HaCaT and PHK16-0b. J Dermatol Sci. 31(3): 225-8.