CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	Beta-defensin 1, Human, pAb		
Catalog number	HP9059		
Lot number	-	**Expiry date**	-
Volume	1 ml	**Amount**	100 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	**Concentration**	100 µg/ml
Host Species	Rabbit Ig	**Conjugate**	None
Endotoxin	N.A.	**Purification**	Protein A
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #								
Yes								•
No						•		
N.D.	•	•	•	•	•		•	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- W: Size to be expected under reducing conditions is ~3.9 kDa.

General Information

Description

Antimicrobial proteins (AMP) are a fundamental element of the primary response against pathogens. AMP's are small endogenous cationic molecules expressed by phagocytic and epithelial cells. The antimicrobial activity of AMP's is directed towards a broad spectrum of pathogens, like Gram-positive & negative bacteria, viruses, yeast and fungi. AMP's aid in innate and adaptive immunity via direct inactivation and by immunomodulatory activity like leukocyte migration. Defensins are the most prominent mammalian AMP's. Three defensin peptide families are identified, the α-, β-, and θ-defensins. They are characterized by a triple-stranded β-hairpin structure, six disulfide-linked cysteine residues and a positive charge. They are synthesized as preproteins and undergo processing to become a fully active peptide. Defensins are divided in alpha- and beta-defensins depending on their disulfide bridging pattern. α- and β-defensins modify cell migration and maturation, induce cytokines and trigger histamin and prostaglandin D2 release from mast cells. There are six α-defensins: HNP (human neutrophil peptide)-1 to -4, HD5 & 6. Human beta-defensin 1(hBD-1) is considered a prominent AMP in epithelial defense against infection. High expression levels have been found in the kidney and female reproductive tract, especially in pregnant women. Besides antimicrobial activity, hBD1 has an effect on chemoattractive immature dendritic cells and probably memory T cells. After reduction of disulphide-bridges hBD-1 becomes a potent antimicrobial peptide against the opportunistic pathogenic fungus Candida albicans and against anaerobic Gram positive commensals of Bifidobacterium and Lactobacillus species.

Aliases

BD1, hBD-1, b-defensin 1, β-defensin 1

References

1. Schroeder, BO et al; Reduction of disulphide bonds unmasks potent antimicrobial activity of human b-defensin 1. Nature letters, 2011, *469*:7330

Storage&stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC
Robbert Zwinkels

Date
15/03/2018

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.