

## Recombinant Human Beta-defensin 2 (Human BD-2)

### Product Information

Product Name	Cat#	Size
	92502ES08	5 µg
Recombinant Human Beta-defensin 2 (Human BD-2)	92502ES60	100 µg
	92502ES76	500 µg

### Product Description

Defensins (alpha and beta) are cationic peptides with antimicrobial activity against Gram-negative and Gram-positive bacteria, fungi, and enveloped viruses. They are 2-6 kDa proteins and take important roles in innate immune system. On the basis of their size and pattern of disulfide bonding, mammalian defensins are classified into alpha, beta and theta categories.  $\beta$ -Defensins contain a six-cysteine motif that forms three intra-molecular disulfide bonds. Four human  $\beta$ -defensins have been identified and they are expressed on some leukocytes and at epithelial surfaces. Because  $\beta$ -defensins is cationic peptides, they can therefore interact with the membrane of invading microbes, which are negative due to lipopolysaccharides (LPS) and lipoteichoic acid (LTA) found in the cell membrane. Especially, they have higher affinity to the binding site compared to  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  ions. Furthermore, they can affect the stability of the membrane.

### Product Properties

<b>Synonyms</b>	Defensin beta2, Beta-defensin 2, Defensin, beta 2, BD-2
<b>Accession</b>	O15263
<b>GeneID</b>	1673
<b>Source</b>	E.coli-derived human Beta-defensin 2 protein, Gly24-Pro64
<b>Molecular Weight</b>	Approximately 4.3 kDa.
<b>AA Sequence</b>	GIGDPVTCLK SGAICHPVFC PRRYKQIGTC GLPGTKCCKK P
<b>Tag</b>	None
<b>Physical Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Purity</b>	> 98 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity</b>	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using immature human dendritic cells is in a concentration range of 10-100 ng/ml.
<b>Endotoxin</b>	< 1.0 EU per 1µg of the protein by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH 7.4, 130 mM NaCl. We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom.
<b>Reconstitution</b>	Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20$ °C. Further dilutions should be made in appropriate buffered solutions.

### Shipping and Storage

The products are shipped with ice pack and can be stored at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$  for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

### **Cautions**

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!