

# Growth Factor Data Sheet

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GoldBio growth factors are manufactured for **RESEARCH USE ONLY** and cannot be sold for human consumption!

Human beta-defensin 105A (DEFB105A) is an antimicrobial peptide that contributes to both the innate and the adaptive immune systems and is active against gram-negative and gram-positive bacteria, fungi, and viruses. Like the other  $\beta$ -defensins, DEFB105A is a small protein that contains a motif consisting of six cysteine residues which form three intramolecular disulfide bridges. It is expressed in the testis and epididymis. DEFB105A is a cationic peptide and interacts with the membranes of invading microbes, which are negatively charged due to the presence of lipopolysaccharides (LPS) or lipoteichoic acid (LTA). LTA and LPS have higher affinity for DEFB103A than for  $\text{Ca}^{+2}$  and  $\text{Mg}^{+2}$  ions. The larger defensin molecule displaces the smaller ion, changing the membrane structure and affecting the stability of the membrane; this can lead to the formation of pores and subsequent depolarization or lysis. DEFB105A differs from the other  $\beta$ -defensins by consisting of 3 exons and 2 introns, instead of 2 exons and 1 intron.

<b>Catalog Number</b>	<b>1190-05</b>
<b>Product Name</b>	<b>DEFB105A, Human</b> Recombinant Human Defensin, Beta 105A Defensin, Beta 5, DEFB5, hBD-5
<b>Source</b>	<i>Escherichia coli</i>
<b>MW</b>	~5.8 kDa (51 amino acids)
<b>Sequence</b>	GLDFSQPFPS GEFAVCECK LGRGKCRKEC LENEKPDGNC RLNFLCCRQR I
<b>Accession Number</b>	<a href="#">Q8NG35</a>
<b>Purity</b>	>95% by SDS-PAGE and HPLC analyses
<b>Formulation</b>	Sterile filtered white lyophilized powder. Purified and tested for use in cell culture.
<b>Storage/Handling</b>	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage. The reconstituted sample can be apportioned into working aliquots and stored at -80 °C for up to 6 months. Avoid repeated freeze/thaw cycles.
<b>Reconstitution</b>	The sample should be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a siliconized tube using PBS that contains a 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Reconstituted solutions are stable for up to one week at 2-8°C. Stock solutions should be aliquoted and stored at -80°C. Further dilutions should be made in appropriate buffered solutions containing BSA or serum.