

REG-3 alpha/REG3A Protein, Human (HEK293, His)

Cat. No.:	HY-P76002
Synonyms:	Regenerating islet-derived protein 3-alpha; REG-3-alpha; HIP/PAP; HIP; PAP; PAP1
Species:	Human
Source:	HEK293
Accession:	Q06141-1 (E27-D175)
Gene ID:	5068
Molecular Weight:	Approximately 18 kDa

PROPERTIES

AA Sequence	<p> E E P Q R E L P S A R I R C P K G S K A Y G S H C Y A L F L S P K S W T D A D L A C Q K R P S G N L V S V L S G A E G S F V S S L V K S I G N S Y S Y V W I G L H D P T Q G T E P N G E G W E W S S S D V M N Y F A W E R N P S T I S S P G H C A S L S R S T A F L R W K D Y N C N V R L P Y V C K F T D </p>
Biological Activity	Measured by its ability to enhance the outgrowth of SH-SY5Y cells. The ED ₅₀ of this effect is 4.456 µg/mL, corresponding to a specific activity is 224.42 units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>REG-3 alpha/REG3A, a bactericidal C-type lectin, exclusively targets Gram-positive bacteria, mediating bacterial killing by binding to surface-exposed carbohydrate moieties of peptidoglycan. Its antimicrobial action extends to binding membrane phospholipids, forming hexameric membrane-permeabilizing oligomeric pores that contribute to bacterial elimination. Acting as a hormone, REG-3 alpha responds to various stimuli, including anti-inflammatory signals such as IL17A and the gut microbiome. Upon secretion by diverse cell types, REG-3 alpha activates its receptor EXTL3, initiating cell-specific signaling pathways. IL17A-induced REG-3 alpha expression in keratinocytes regulates keratinocyte proliferation and differentiation</p>
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after skin injury through the activation of the EXTL3-PI3K-AKT signaling pathway. Simultaneously, REG-3 alpha inhibits skin inflammation by suppressing inflammatory cytokines like IL6 and TNF. Notably, in the pancreas, REG-3 alpha permeabilizes beta-cell membranes and stimulates their proliferation.

Caution: Product has not been fully validated for medical applications. For research use only.

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