9051 Mira Mesa Blvd, #910094
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REG1A Human

Regenerating Islet-Derived 1 Alpha Human Recombinant
RCP1841

Product Overview

Name	REG1A Human
Description	
Regenerating Islet-Derived 1 Alpha Human Recombinant	
Accession (Primary)	P05451
Synonyms	
Lithostathine-1-alpha, Pancreatic stone protein, PSP, Pancreatic thread protein, PTP, Islet of Langerhans regenerating protein, REG, Regenerating protein I alpha, Islet cells regeneration factor, ICRF, REG1A, PSPS, P19, PSPS1, MGC12447.	
Introduction	
REG protein was shown to be stimulated during the regeneration of pancreatic islets. Since then, many Reg-related proteins have been identified in humans and other animals. In human, the four REG family genes, i.e., REG 1 alpha, REG 1 beta, REG-related sequence (RS) and HIP/PAP, have so far been isolated. These Reg-related proteins are classified into four subfamilies according to their amino-acid sequences, but they share a similar structure and physiological function. Reg protein is a growth factor for pancreatic beta cells and also suggests that the administration of Reg protein could be used as another therapeutic approach for diabetes mellitus. Human REG cDNA which encodes a 166-amino acid protein with a 22-amino acid signal peptide. The amino acid sequence of human REG protein has 68% homology to that of rat Reg protein. Reg I was found to be expressed mainly in pancreatic beta and acinoductular cells as well as gastric fundic enterochromaffin-like (ECL) cells. Reg I production in ECL cells is stimulated by gastrin, as well as by the proinflammatory cytokine, cytokine-induced neutrophil chemoattractant (CINC)-2Beta. In patients with chronic hypergastrinemia, Reg production is stimulated, with the increased proliferation of gastric mucosal cells. Patients with Helicobacter pylori infection also showed increased Reg production in the gastric mucosa, partly via increased plasma gastrin concentration and partly via increased proinflammatory cytokine production. The serum concentration of the reg-protein was significantly higher in patients with various pancreatic diseases than in normal controls, and was also significantly higher in patients with acute pancreatitis or chronic relapsing pancreatitis than in patients with chronic pancreatitis. Furthermore, the serum PSP/reg-protein concentration was also significantly increased in liver cirrhosis, choledocholithiasis, and various cancers of the digestive system.	
Source	
Escherichia Coli.	

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Formulation

Filtered (0.4 µm) and lyophilized from 0.5 mg/ml in 5mM Tris, 25mM NaCl, pH 7.5.

Stability

Store lyophilized protein at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C.

Purity

Greater than 95% as determined by SDS-PAGE.

Amino acid sequence

MKHHHHHHAS HM QEAQTELP QARISCPEGT NAYRSYCYYF NEDRETWVDA DLYCQNMNSG NLVSVLTQAE GAFVASLIKE SGTDDFNVWI GLHDPKKNRR WHWSSGSLVS YKSWGIGAPS SVNPGYCVSL TSSTGFQKWK DVPCEDKFSF VCKFKN.

Solubility

Add deionized water to a working concentration approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by appropriate sterile filter before using it in the cell culture.

Precautions

REG1A Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P05451)