Product Data Sheet

Product Name:	REG1A Human
Cat. No.:	GP24363
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped at Room temp.
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.		
Amino Acid Sequence	MKHHHHHHAS HMQEAQTELP 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.		
Formulation	Filtered (0.4μm) and lyophilized from 0.5 mg/ml in 5mM Tris, 25mM NaCl, pH 7.5.		

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

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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.

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 .

Background

The Recombinant Human REG 1 alpha is produced with N-terminal fusion His Tag. The Recombinant Human REG 1 alpha His-Tagged Fusion Protein, has a molecular weight of 17.8 kDa protein containing 144 amino acid residues of the Human REG 1 alpha and 12 additional amino acid residues – His Tag.

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