Regenerating Protein 1 alpha Human, Rabbit Polyclonal Antibody

Product Data Sheet

Source of Antigen: *E. coli*
Host: Rabbit

Cat. No.:
RD181078100 (0.1 mg)

Other names: REG-1-alpha, PSP, Pancreatic stone protein, Lithostatine, Litostathine-1-alpha, Pancreatic thread protein, PTP, Islet od langerhans regenerating protein, Regenerating islet-derived protein 1-alpha, Islet cell regeneration factor, IC

Research topic

Diabetology - Other Relevant Products, Immune Response, Infection and Inflammation, Oncology, Pancreatic regulatory molecules

Preparation

The antibody was raised in rabbits by immunization with the recombinant Human REG-1alpha.

Amino Acid Sequence

The immunization antigen (17.8 kDa) is a protein containing 156 AA of recombinant Human REG-1alpha. N-Terminal His-tag 12 AA (highlighted).

MKHHHHHHAS HMQEAQTELP QARISCPEGT NAYRSYCYYF NEDRETWVDA DLYCQNMNSG NLVSVLTQAE GAFVASLIKE SGTDDFNVWI GLHDPKKNRR WHWSSGSLVS YKSWGIGAPS SVNPGYCVSL TSSTGFQKWK DVPCEDKFSF VCKFKN

The amino acid sequence of the recombinant Human REG-1alpha is 100% homologous to the amino acid sequence of the Human REG-1alpha without signal sequence.

Species Reactivity

Human
Not yet tested in other species.

Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Human REG-1alpha.

Antibody Content

0.1 mg (determined by BCA method, BSA was used as a standard)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE**.

Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

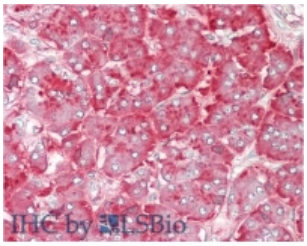
Quality Control Test

Indirect ELISA - to determine titer of the antibody
SDS PAGE - to determine purity of the antibody

Applications

ELISA, Immunohistochemistry, Immunoprecipitation, Western blotting

Antibodies application



Immunohistochemical staining of formalin-fixed paraffin-embedded human pancreas using RD181078100 (Regenerating Protein 1 alpha Human, Rabbit Polyclonal Antibody) at concentration of 5 µg/ml.

IHC performed by LSBio lab for BioVendor according to the IHC-plus Protocol: https://www.lsbio.com/resources/ihc-plus-protocol

Introduction to the Molecule

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 suggest that the administration of Reg protein could be used as another therapeutic approach for diabetes mellitus. human REG cDNA which encoded 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.

References to this Product

- Hayashi K, Motoyama S, Sugiyama T, Izumi J, Anbai A, Nanjo H, Watanabe H, Maruyama K, Minamiya Y, Koyota S, Koizumi Y, Takasawa S, Murata K, Ogawa J. *REG Ialpha is a reliable marker of chemoradiosensitivity in squamous cell esophageal cancer patients.* Ann Surg Oncol. 2008 Apr;15 (4):1224-31
- Minamiya Y, Kawai H, Saito H, Ito M, Hosono Y, Motoyama S, Katayose Y, Takahashi N, Ogawa J. *REG1A expression is an independent factor predictive of poor prognosis in patients with non-small cell lung cancer.* Lung Cancer. 2008 Apr;60 (1):98-104

Note

This product is for research use only.

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