



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet Recombinant Human Pancreatitis-Associated Protein-1

Catalog No.
228-11371

Source:
Escherichia coli

Synonyms:

Regenerating islet-derived protein 3 alpha, Reg III-alpha, Pancreatitis-associated protein 1, REG3A, HIP, PAP, PAP1, REG3, INGAP, PAP-H, PBCGF, REG-III.

Introduction:

Pancreatitis-associated protein (PAP) is a secretory protein not normally expressed in healthy pancreas but highly induced during acute pancreatitis. While PAP has been shown to be anti-bacterial and antiapoptotic in vitro, its definitive biological function in vivo is not clear. Using antisense oligonucleotides, inhibition of PAP expression significantly worsened pancreatitis in a rat model. During pancreatitis, PAP released by the pancreas could mediate lung inflammation through induction of hepatic TNF- α expression and subsequent increase in circulating TNF- α .

PAP is activated in primary liver cancers. In normal liver, the protein is undetectable in normal mature hepatocytes and found only in some ductular cells, representing potential hepatic progenitor cells. PAP can be considered hepatic cytokine that combines mitogenic and anti-apoptotic functions regarding hepatocytes, and consequently acts as a growth factor in vivo to enhance liver regeneration. In pancreatic cancer, PAP was overexpressed in 79% (30 of 38) of pancreatic ductal adenocarcinoma, 19% (7 of 36) of chronic pancreatitis, and 29% (2 of 7) of mucinous cystadenoma. PAP was found in malignant ductular structures in pancreatic carcinomas as well as in benign proliferating ductules and acinar cells in chronic pancreatitis. Elevation of PAP in patients with pancreatic cancer is not merely explainable by concomitant pancreatitis, but seems to be due to increased PAP production by the cancer cells and is also correlated to tumour load as expressed by the UICC stages.

Epithelial expression of PAP was induced under intestinal mucosal inflammation initiated by exposure to commensal bacteria or DSS as well as inflamed IBD colon. Increased serum level of PAP diagnosed ileal location in active Crohn disease with a sensitivity of 60%, a specificity of 94%, a positive predictive value of 84% and a negative predictive value of 81%. Elevated serum PAP (> 50 ng/mL) is significantly associated with disease activity and ileal location of Crohn disease.

Source:

Escherichia Coli.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Description:

The Recombinant Human REG3A protein is produced with N-terminal fusion of His Tag. The REG3A His -Tagged Fusion Protein is an 18.4 kDa protein containing 149 amino acid residues of the Human REG3A and 16 additional amino acid residues- His Tag (underlined).

MRGSHHHHHH GMASHMEEPQ RELPSARIRC PKGSKAYGSH CYALFLSPKS WTDADLACQK
RPSGNLVSVL SGAEGSFVSS LVKSIGNSYS YVWIGLHDPT QGTEPNGEW EWSSSDVMNY
FAWERNPSTI SSPGHCASLS RSTAFLRWKD YNCNVRLPYV CKFTD

Formulation:

Sterile filtered and lyophilized from 0.5 mg/ml in 0.05 M Acetate buffer pH-4.

Specificity:

The amino acid sequence of the recombinant Human REG3A is 100% homologous to the amino acid sequence of the Human REG3A without signal sequence.

Purification Method:

One-step procedure using affinity Ni-NTA chromatography.

Purity:

Greater than 95.0% as determined by SDS-PAGE.

Solubility:

Add 0.2 ml of 0.1M Acetate buffer pH-4 and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10 µg/ml. In higher concentrations the solubility of this antigen is limited.

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.

The lyophilized protein remains stable until the expiry date when stored at -20°C.

Applications:

Western blotting, ELISA

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