BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno-Řečkovice a Mokrá Hora

Date of issue: 20.08.2018

PRODUCT DATASHEET

Pancreatitis-Associated Protein-1 Human E. coli

Cat. No.: RD172085100
Type: Recombinant protein
Size: 0.1 mg
Source: E. coli
Species: Human

Description
Total 165 AA. MW: 18.4 kDa (calculated). UniProtKB acc.no. Q06141. N-Terminal His-tag 16 AA (highlighted).

Other names
PAP-1, 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 to the molecule
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 anti-apoptotic in vitro, its definitive biological function in vivo is not clear. Using antisepse 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 TNFalpha expression and subsequent increase in circulating TNFalpha. 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 cancor, 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.

Research topic
Pancreatic regulatory molecules

Amino Acid sequence
MRGSHHHHHH GMASHMEEPQ RELPSARIRC PKGSKAYGSH CYALFLSPKS WTDADLACQK RPSGNLVSVL SGAEGSFVSS LVKSIGNSYS YVWIGLHDPT QGTEPNGEGW EWSSSDVMNY FAWERNPSTI SSPGHCASLS RSTAFLRWKD YNCNVRLPYV CKFTD

Purity
Purity as determined by densitometric image analysis: > 95%

Endotoxin
< 0.1 EU/µg

Formulation:
Filtered (0.4 µm) and lyophilized in 0.5 mg/mL in 0.05M Acetate buffer pH =4.0

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Reconstituion:
Add 0.1M Acetate buffer pH4 to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10µg/mL. In higher concentrations the solubility of this antigen is limited. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

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

Storage, Stability/Shelf Life
Store the lyophilized protein at –80 °C. Lyophilized protein remains stable until the expiry date when stored at –80 °C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at –80 °C for long term storage. Reconstituted protein can be stored at 4 °C for a week.

Quality control
BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

LAL to determine quantity of endotoxin.

Applications
Western blotting

Note
This product is intended for research use only.

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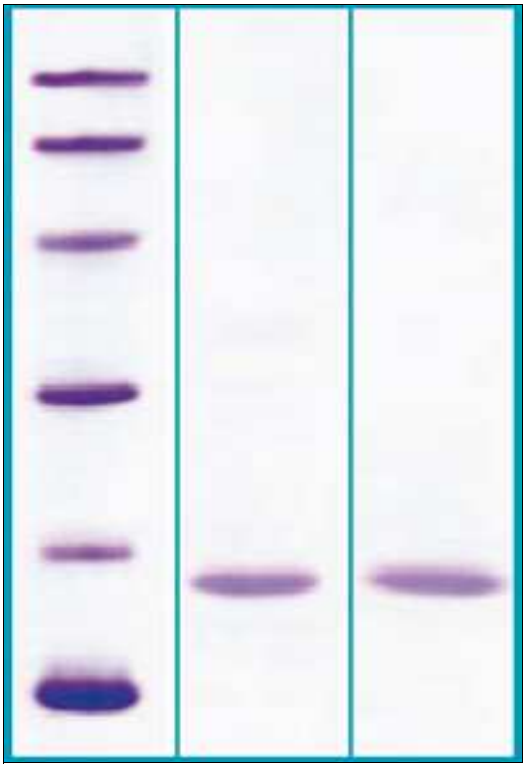

12% SDS-PAGE separation of Human PAP-1
1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg/lane
3. non-reduced and non-heated sample, 5µg/lane

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