Data Sheet (Cat.No.TMPY-01394)

TargetMol

REG1B Protein, Human, Recombinant (His)

General Information

Synonyms:	regenerating islet-derived 1 beta;PSPS2;REGL;regenerating islet-derived 1 β;REGH;REGI-β;REGI-BETA
Protein Construction:	A DNA sequence encoding the human REG1B (NP_006498.1) (Met 1-Asn 166) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P48304
Molecular Weight:	17.7 kDa (predicted); 19-21 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Regenerating gene (Reg), first isolated from a regenerating islet cDNA library, encodes a secretory protein with a growth stimulating effect on pancreatic beta cells, and could be associated with fibrocalculous pancreatopathy. Reg and Reg-related genes which were expressed in various organs have been revealed to constitute a multigene family, the Reg family consisting of four subtypes (types I, II, III, IV) and are involved in cancers and

neurodegenerative diseases. Regenerating islet-derived 1 beta (REG1B), also known as Lithostathine-1-beta and Pancreatic stone protein 2 (PSPS2), is a types I Reg protein and contains one typical C-type lectin domain. REG1B is a 166-amino acid protein that has 22 amino acid substitutions in comparison with the previously isolated human REG1A, and it is was expressed only in pancreas. REG1B Is normally found in the exocrine pancreas, whereas in other tissues it appears either only under pathological conditions, such as Alzheimer's disease (brain), cancer (colon), or during regeneration such as neuronal sprouting in brain and pancreas regeneration. REG1B might act as an inhibitor of spontaneous calcium carbonate precipitation. The REG1A and REG1B gene and proteins could play different roles in the pancreas.

Reference

Moriizumi S,et al.(1994) Isolation, structural determination and expression of a novel reg gene, human regI beta. Biochim Biophys Acta. 1217(2): 199-202.

Sanchez D,et al.(2001) Preferential expression of reg I beta gene in human adult pancreas. Biochem Biophys Res Commun. 284(3): 729-37.

Boonyasrisawat W,et al.(2002) Analysis of the reg1alpha and reg1beta gene transcripts in patients with fibrocalculous pancreatopathy. Southeast Asian J Trop Med Public Health. 33(2): 365-72.

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