Data Sheet (Cat.No.TMPY-03684)

TargetMol

REG1A Protein, Cynomolgus, Recombinant (hFc)

General Information

Synonyms:	regenerating family member 1 α;regenerating family member 1 alpha;REG1A
Protein Construction:	A DNA sequence encoding the cynomolgus REG1A (G8F4F8) (Met1-Asn166) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 23
Species:	Cynomolgus
Expression Host:	HEK293 Cells
Accession:	G8F4F8
Molecular Weight:	38.3 kDa (predicted); 44 kDa (reducing conditions)

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 (reg) gene encodes protein that has been involved in pancreatic lithogenesis and the regeneration of islet cells and therefore the abnormality of reg genes could be associated with fibrocalculous pancreatopathy. REG I has been shown to be crucial for induction of ductal epithelial cells to differentiate into some cells. Lithostathine-1-alpha, also known as Pancreatic stone protein, Pancreatic thread protein, Regenerating islet-derived protein 1-alpha, REG1A, REG-1-alpha, and PSPS, is highly expressed in fetal and infant brains. REG1A

contains one C-type lectin domain and is a known growth factor affecting pancreatic islet beta cells. REG1A may act as an inhibitor of spontaneous calcium carbonate precipitation. It may also be associated with neuronal sprouting in brain, and with brain and pancreas regeneration. REG1A has been reported to be expressed in human cancers, and it may be positively correlated with patient's prognosis. REG3A and REG1A proteins are both involved in liver and pancreatic regeneration and proliferation. High levels of REG1A expression by tumor cells are an independent predictor of a poor prognosis in patients with non-small cell lung cancer (NSCLC).

Reference

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.

Tezel E, et al. (2004) REG I as a marker for human pancreatic acinoductular cells. Hepatogastroenterology. 51(55): 91-6.

Geng J, et al. (2009) REG1A predicts recurrence in stage Ta/T1 bladder cancer. Eur J Surg Oncol. 35(8): 852-7.