Data Sheet (Cat.No.TMPY-00529)

TargetMol

Alpha amylase/AMY2A Protein, Rhesus, Recombinant (hFc)

General Information

Synonyms:	amylase, alpha 2A (pancreatic);AMY2B;α amylase/AMY2A;AMY2A;amylase, α 2A (pancreatic)
Protein Construction:	A DNA sequence encoding the rhesus AMY2A (H9EX43) (Met1-Leu511) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 16
Species:	Rhesus
Expression Host:	HEK293 Cells
Accession:	H9EX43
Molecular Weight:	82.8 kDa (predicted)

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:	> 90 % 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

Alpha-amylase is the major form of amylase found in humans and other mammals. Amylases are secreted proteins that hydrolyze 1,4-alpha-glucoside bonds in oligosaccharides and polysaccharides, and thus catalyze the first step in digestion of dietary starch and glycogen. Alpha-amylase hydrolyses alpha bonds of large, alpha-linked polysaccharides, such as starch and glycogen, yielding glucose and maltose. Amylases is widely expressed and is most prominent in pancreatic juice and saliva, each of which has its own isoform of human α-amylase. They

behave differently on isoelectric focusing, and can also be separated in testing by using specific monoclonal antibodies.

Reference

Abe A, et al. (2005) Complexes of Thermoactinomyces vulgaris R-47 Alpha-amylase / AMY2A 1 and pullulan model oligossacharides provide new insight into the mechanism for recognizing substrates with alpha-(1,6) glycosidic linkages. FEBS J. 272(23):6145-53.

Aghajari, N, et al. (1998) Crystal structures of the psychrophilic Alpha-amylase / AMY2A from Alteromonas haloplanctis in its native form and complexed with an inhibitor. Protein Sci. 7(3): 564-72.

Ramasubbu, N, et al. (1996) Structure of Human Salivary -Amylase at 1.6 Resolution: Implications for its Role in the Oral Cavity. Acta Crystallographica Section D Biological Crystallography. 52(3):435-46.