Data Sheet (Cat.No.TMPY-02385)

TargetMol

PGA4 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	FLJ77962;FLJ58952;PGA4;PGA3;pepsinogen 4, group I (pepsinogen A);PGA5
Protein Construction:	A DNA sequence encoding the human PGA4 (NP_001073276.1) (Met 1-Ala 388) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ile 16
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P0DJD7
Molecular Weight:	67.3 kDa (predicted); 65-70 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK (Dnp)-NH2. The specific activity is > 3000 pmoles/min/μg. (Activation description: The enzyme achieves its activity under acidic pH)
Purity:	> 80 % 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

PGA4 (Pepsinogen 4, group I), or Pepsinogen A, is a member of the peptidase A1 family. Pepsin is expressed as a pro-form zymogen, pepsinogen, whose primary structure has an additional 44 amino acids. Pepsin is stored as pepsinogen so it will only be released when needed, and does not digest the body's own proteins in the stomach's lining. Five types of zymogens of pepsins, gastric digestive proteinases, are known: pepsinogens A, B, and F,

progastricsin, and prochymosin. There are two major groups of pepsinogen, namely pepsinogen A (PGA) and pepsinogen C (PGC) (or progastricsin), and each frequently has isozymogens. The PGA3, PGA4 and PGA5 genes encode identical human pepsinogen A enzymes.

Reference

Kageyama T. (2002) Pepsinogens, progastricsins, and prochymosins: structure, function, evolution, and development. Cell Mol Life Sci. 59(2): 288-306.
Takahashi K. (1992) Gene structures of pepsinogens A and C. Scand J Clin Lab Invest Suppl. 210: 97-110.

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