Data Sheet (Cat.No.TMPY-06644)

TargetMol

IGFBP-7 Protein, Human, Recombinant (hFc & Avi), Biotinylated

General Information

Synonyms:	AGM;IGFBP-7;FSTL2;RAMSVPS;PSF;IGFBPRP1;IBP-7;MAC25;insulin-like growth factor binding protein 7;IGFBP-7v;TAF
Protein Construction:	A DNA sequence encoding the human IGFBP7 (Q16270) (Met 1-Leu282) was expressed with a c-terminal AVI tagged Fc region of human IgG1 at the C-terminus (Fc-AVI). The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Ser 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q16270
Molecular Weight:	54.98 kDa (predicted); 62.49 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Human CD93 / C1QR1 Protein (His Tag) at 2μg/mL (100μL/well) can bind Recombinant Human IGFBP7 Protein (Fc & AVI Tag), Biotinylated , the EC50 is 7-21 ng/mL.
Purity:	≥ 90 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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

Insulin-like growth factor-binding protein 7 (IGFBP7) is a member of the IGFBP family. It has been identified in

colorectal adenocarcinoma (CRC) cell lines. The Insulin-like growth factor-binding protein also known as IGFBP serves as a carrier protein for Insulin-like growth factor 1. IGFBPs are distinct but are sharing regions with strong homology. All members of the IGFBP family bind IGF-I and IGF-II with about equal affinity. Insulin-like growth factor (IGF) binding proteins (IGFBPs) have been shown to either inhibit or enhance the action of IGF or act in an IGF-independent manner in the prostate. IGFBP7 could inhibit cell growth, decrease soft agar colony formation activity, and induce apoptosis in RKO and SW620 cells. There is mounting evidence that the structure of the IGFBP proteins plays a key role in the regulation of IGF bioavailability, by modulating its molecular size, capillary membrane permeability, target tissue specificity, cell membrane adherence, and IGF affinity.

Reference

Oh Y,et al.(1996) Synthesis and characterization of insulin-like growth factor-binding protein (IGFBP)-7. Recombinant human mac25 protein specifically binds IGF-I and -II. J Biol Chem. 271(48): 30322-5.

Wilson EM,et al.(1997) Generation and characterization of an IGFBP-7 antibody: identification of 31kD IGFBP-7 in human biological fluids and Hs578T human breast cancer conditioned media. J Clin Endocrinol Metab. 82(4): 1301-3.

Lin J,et al.(2007) Methylation patterns of IGFBP7 in colon cancer cell lines are associated with levels of gene expression. J Pathol. 212(1): 83-90.

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