Data Sheet (Cat.No.TMPY-00150)

TargetMol

IGF2/IGF-II Protein, Human, Recombinant

General Information

Synonyms:	PP9974;C11orf43;IGF-II;insulin-like growth factor 2
Protein Construction:	A DNA sequence encoding the human IGF2 (P01344-1) (Ala25-Glu91) was expressed. Predicted N terminal: Ala 25
Species:	Human
Expression Host:	P. pastoris (Yeast)
Accession:	P01344-1
Molecular Weight:	7.5 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:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 8% Acetonitrile, 0.1% TFA. 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.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

Insulin-like growth factor 2 (IGF-2/IGF-II) is a member of the insulin family of polypeptide growth factors, which are involved in development and growth. It is an imprinted gene, expressed only from the paternal allele, and epigenetic changes at this locus are associated with Wilms tumor, Beckwith-Wiedemann syndrome, rhabdomyosarcoma, and Silver-Russell syndrome. IGF-2/IGF-II is a mediator of prolactin-induced alveologenesis; prolactin, IGF-2, and cyclin D1, all of which are overexpressed in breast cancers, are components of a

developmental pathway in the mammary gland. IGF-2 and exhibited statistically significant, positive associations with colorectal cancer risk when cases were confined to those diagnosed within a relatively short period after enrolment. Circulating IGF-2 and IGFBP-3 can serve as early indicators of impending colorectal cancer. IGF-2/IGF-II appears to be involved in the progression of many tumors. It binds to at least two different types of receptors: IGF type 1 (IGF 1R) and mannose 6-phosphate/IGF type 2 (M6-P/IGF 2R). Ligand binding to IGF 1R provokes mitogenic and anti-apoptotic effects. M6-P/IGF 2R has a tumor suppressor function—it mediates IGF 2 degradation. Mutation of M6-P/IGF 2R causes both diminished growth suppression and augmented growth stimulation. This study aimed to investigate the role of IGF 2 and its receptors (IGF 1R and IGF 2R) in human gastric cancer.

Reference

Harvey MB, et al. (1991) IGF-2 receptors are first expressed at the 2-cell stage of mouse development. Development. 111(4): 1057-60.

Peters G, et al. (2003) IGF-1R, IGF-1 and IGF-2 expression as potential prognostic and predictive markers in colorectal-cancer. Virchows Arch. 443(2): 139-45.

Burrow S, et al. (1998) Expression of insulin-like growth factor receptor, IGF-1, and IGF-2 in primary and metastatic osteosarcoma. J Surg Oncol. 69(1): 21-7.

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