



Product Information

Insulin-Like Growth Factor I (IGF-1) Receptor

Human, Recombinant

Expressed in mouse NSO cells

Product Number **I 4657**

Product Description

Insulin-like Growth Factor I (IGF-1) Receptor is produced from a DNA sequence encoding the extracellular domain of IGF-I receptor pre-propeptide (amino acids Met 1 to Asn 932)¹ expressed in mouse NSO myeloma cells. The proteolytically cleaved and disulfide linked α and β subunits of IGF-I together have a predicted molecular mass of approximately 100 kDa. Based on N-terminal amino acid sequencing, recombinant human IGF-1 R α subunit has Glu 31 at the N-terminus and the β subunit has Asp 741 at the N-terminus. As a result of glycosylation, the recombinant α subunit migrates as a doublet (approximately 120 kDa and 150 kDa) and the recombinant β subunit also migrates as a doublet (approximately 46 kDa and 50 kDa) in SDS-PAGE under reducing conditions.

There are two kinds of IGF receptors based on their relative affinities for IGF-I versus IGF-II. The IGF-I receptor prefers IGF-I to IGF-II and weakly binds to insulin. IGF-I receptor, a disulfide-linked heterotetrameric transmembrane protein, consists of two α and two β subunits. Both the α and β subunits are encoded within a single receptor precursor cDNA. The proreceptor polypeptide is proteolytically cleaved and disulfide-linked to yield the mature heterotetrameric receptor. The IGF-I R is similar in structure to the insulin receptor. The α subunit of IGF-I R has an extracellular domain, while the β subunit has an extracellular domain, a transmembrane domain, and a cytoplasmic tyrosine kinase domain.

The IGF-I receptor is highly expressed in all cell types and tissues. Essentially all of the biological activities of IGF-I and II are mediated via IGF-I R.²

Reagent

Recombinant Human Insulin-Like Growth Factor I

Receptor is supplied as approximately 50 μ g of protein

lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS).

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 50 μ g/ml.

Storage/Stability

Store at -20°C . Upon reconstitution, store at $2-8^{\circ}\text{C}$ for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Soluble $\alpha_2\beta_2$ heterotetrameric recombinant human IGF-1 R binds IGF-1 in solution but is not an effective IGF-I antagonist.

Purity: >95% as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 1.0 endotoxin units/ μ g cytokine as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Ullrich, A., et al., Insulin-like growth factor I receptor primary structure: comparison with insulin receptor suggests structural determinants that define functional specificity. *EMBO J.*, **5**, 2503-2512 (1986).
2. Rechler, M. M. and Nissley, S.P., "Insulin-Like Growth Factors", in *Peptide Growth Factors and Their Receptors I*, Sporn, M.B., and Roberts, A.B., (Eds.), Springer-Verlag, New York, N.Y., pp. 263-346 (1991).

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