Data Sheet (Cat.No.TMPY-06195)

TargetMol

IGF1R/CD221 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	insulin-like growth factor 1 receptor;CD221;IGF-1R;A330103N21Rik;D930020L01;hyft
Protein Construction:	Glu31-His936
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q60751
Molecular Weight:	80.72+23.0 kDa (predicted); 110-140 kDa and 50-65 kDa, corresponding to the a subunit and ß subunit respectively (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Mouse IGF1R, His Tag at 5 μg/ml (100 μl/well) on the plate. Dose response curve for Human IGFI, hFc Tag with the EC50 of 1.14 μg/ml determined by ELISA (QC Test).
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

The insulin-like growth factor-1 receptor (IGF1R) is a transmembrane tyrosine kinase involved in several biological processes including cell proliferation, differentiation, DNA repair, and cell survival. This a disulfide-linked heterotetrameric transmembrane protein consisting of two α and two β subunits, and among which, the α subunit is extracellular while the β subunit has an extracellular domain, a transmembrane domain, and a cytoplasmic tyrosine kinase domain. The IGF1R signaling pathway is activated in the mammalian nervous system from the

early developmental stages. Its major effect on developing neural cells is to promote their growth and survival. This pathway can integrate its action with signaling pathways of growth and morphogenetic factors that induce cell fate specification and selective expansion of specified neural cell subsets. Modulation of cell migration is another possible role that IGF1R activation may play in neurogenesis. In the mature brain, IGF-I binding sites have been found in different regions of the brain, and multiple reports confirmed a strong neuroprotective action of the IGF-IR against different pro-apoptotic insults. IGF1R is an important signaling molecule in cancer cells and plays an essential role in the establishment and maintenance of the transformed phenotype. Inhibition of IGF1R signaling thus appears to be a promising strategy to interfere with the growth and survival of cancer cells. IGF1R is frequently overexpressed by tumors and mediates proliferation and apoptosis protection. IGF signaling also influences hypoxia signaling, protease secretion, tumor cell motility, and adhesion, and thus can affect the propensity for invasion and metastasis. Therefore, IGF1R is now an attractive anti-cancer treatment target.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

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