Human Insulin R / CD220 (28-944) Protein, His Tag (MALS & SPR verified)

Catalog # INR-H52Ha

Synonym

INSR,Insulin receptor,IR,CD220

Source

Human Insulin R (28-944), His Tag(INR-H52Ha) is expressed from human 293 cells (HEK293). It contains AA His 28 - Lys 944 (Accession # P06213-2). Predicted N-terminus: His 28

Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus. The mature form of Insulin R a disulfide-linked heterotetramer composed of 2 alpha and 2 beta chains. Each α and β chain (partial fragment) has a calculated MW of 83.6 kDa and 22.8 kDa. The protein migrates as 120-130 kDa and 35-45 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

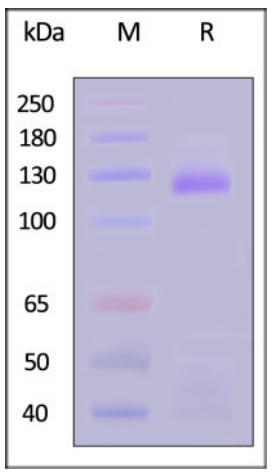
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

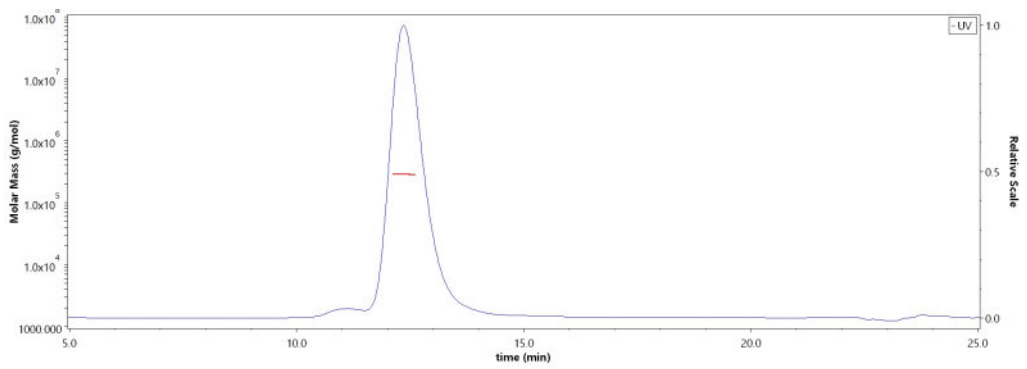
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



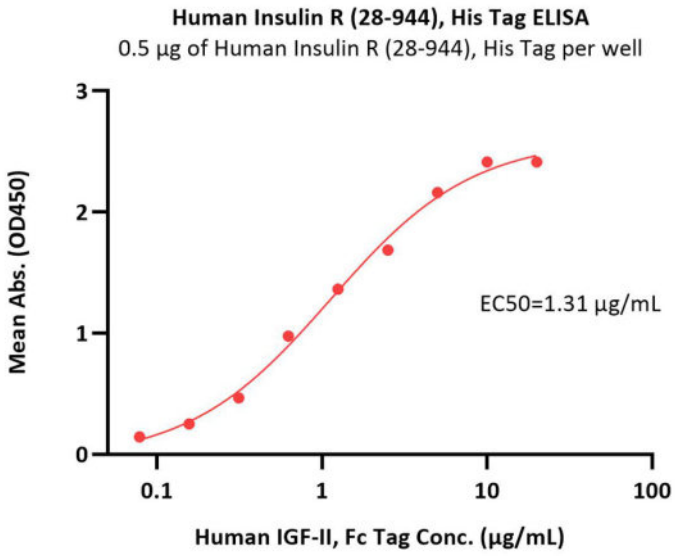
Human Insulin R (28-944), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS

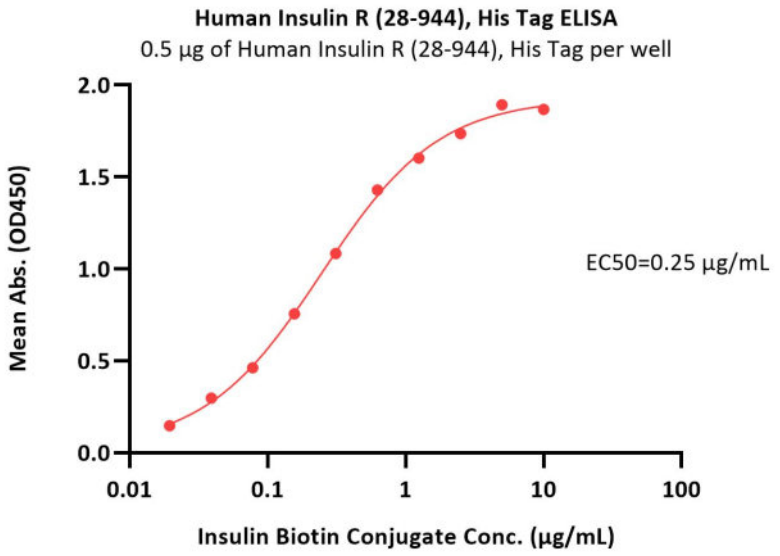


The purity of Human Insulin R (28-944), His Tag (Cat. No. INR-H52Ha) is more than 90% and the molecular weight of this protein is around 256-313 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA

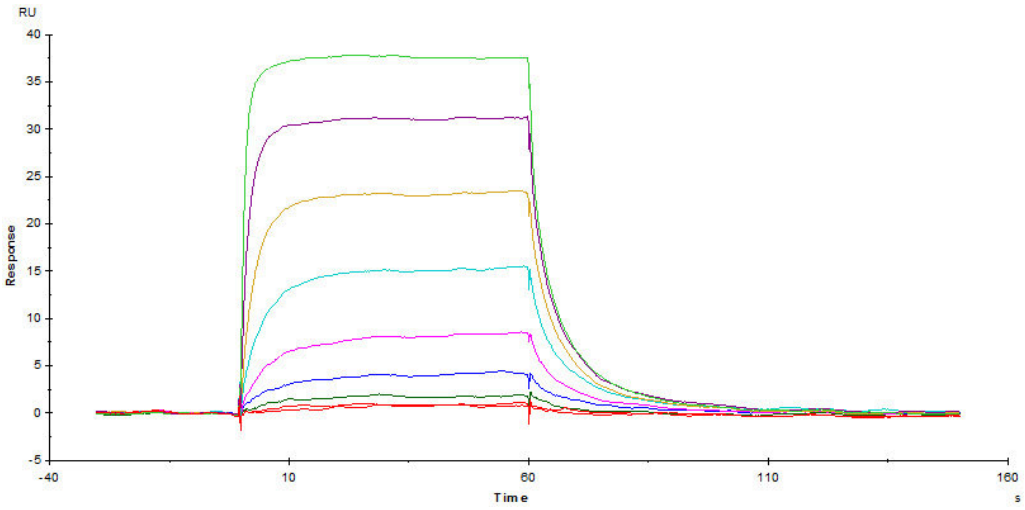


Immobilized Human Insulin R (28-944), His Tag (Cat. No. INR-H52Ha) at 5 μg/mL (100 μL/well)can bind Human IGF-II, Fc Tag (Cat. No. IG2-H4260) with a linear range of 0.078-2.5 μg/mL (QC tested).



Immobilized Human Insulin R (28-944), His Tag (Cat. No. INR-H52Ha) at 5 μg/mL (100 μL/well)can bind Insulin Biotin Conjugate with a linear range of 0.02-0.313 μg/mL (Routinely tested).

Bioactivity-SPR



Human Insulin R (28-944), His Tag (Cat. No. INR-H52Ha) captured on CM5 chip via anti-His antibody, can bind Human Insulin with an affinity constant of 249 nM as determined in a SPR assay (Biacore T200) (QC tested).

Background

Insulin receptor (INSR) is also known as CD antigen CD220, which can be cleaved into the following 2 chains: Insulin receptor subunit alpha and Insulin receptor subunit beta. INSR is a tetramer of 2 alpha and 2 beta chains linked by disulfide bonds. The alpha chains carry the insulin-binding regions, while the beta chains carry the kinase domain. Forms a hybrid receptor with IGF1R, the hybrid is a tetramer consisting of 1 alpha chain and 1 beta chain of INSR and 1 alpha chain and 1 beta chain of IGF1R. In addition to binding insulin, the insulin receptor can bind insulin-like growth factors (IGFI and IGFII). Isoform Short of INSR has a higher affinity for IGFII binding. When present in a hybrid receptor with IGF1R, INSR binds IGF1.

Clinical and Translational Updates