Bioactive, Human PRLR Dimer, His-Avi Tag
Product Code: CSP-24089
For Research Use Only (RUO)

Protein Name
PRLR

Alternate Name(s)
prolactin R, PRL-R

Protein Construct
PRLR dimer protein contains a PRLR extracellular domain (UniProt# P16471) fused with a proprietary dimer motif followed by a tandem His-Avi tag at the C-terminus. Expressed in HEK293T cell line.

SDS-Page Molecular Weight
69 kDa. The migration range of the dimer protein with glycosylation under non-reducing condition is 120-190 kDa on SDS PAGE.

Shipping Conditions
Frozen Dry Ice

Expression Host
HEK293T

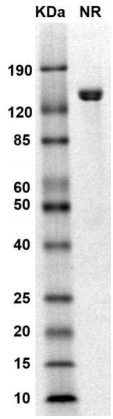
Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Amino Acid Range
Q25-D234

Formulation
0.22µm filtered PBS, pH 7.4

Stability & Storage
-80^{0}C

SDS-PAGE

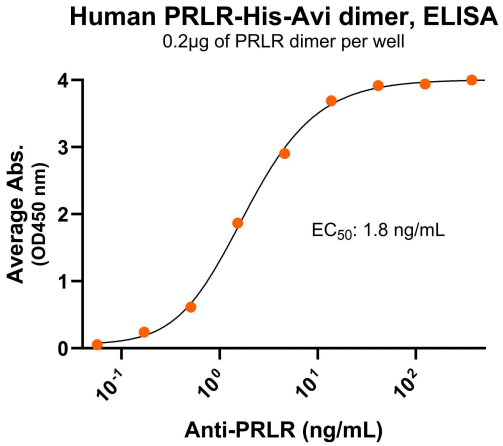


MW: Molecular Weight marker reduced condition
NR: PRLR dimer under non-reduced condition

The migration range of the dimer protein with glycosylation under non-reducing condition is 120-190 kDa on SDS PAGE.

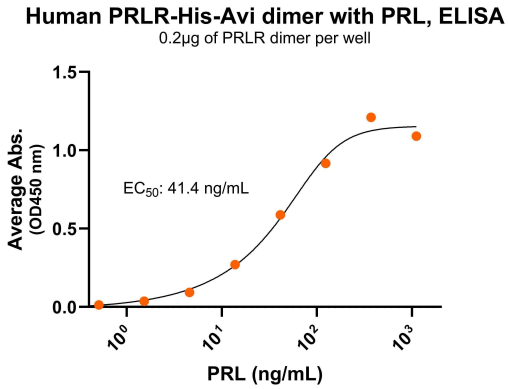
Bioactive, Human PRLR Dimer, His-Avi Tag
Product Code: CSP-24089
For Research Use Only (RUO)

Bioactivity – Antibody Binding



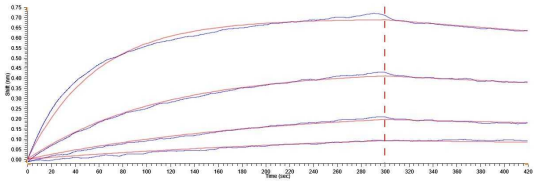
Immobilized human PRLR dimer protein, His-Avi tag (Cat. No. CSP-24089) at 2 μg/mL (100 μL/well) can bind anti-human PRLR monoclonal antibody, with half maximal effective concentration (EC50) range of 0.9-3.7 μg/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized human PRLR dimer protein, His-Avi tag (Cat. No. CSP-24089) at 2 μg/mL (100 μL/well) can bind human PRL, with half maximal effective concentration (EC50) range of 20.7-82.8 ng/mL (QC tested).

Bioactivity – BLI



Human PRL, mouse Fc tag on an Anti-Mouse IgG Fc probe can bind human PRLR dimer protein His-Avi tag (Cat. No. CSP-24089) with a KD of 5.3-21 nM as determined by BLI.

Bioactive, Human PRLR Dimer, His-Avi Tag
Product Code: CSP-24089
For Research Use Only (RUO)

Background

Human prolactin receptor (PRLR), also known as PRL-R, is a class 1 cytokine receptor glycoprotein that binds prolactin (PRL) as well as growth hormone (GH) and human placental lactogen (hPL). PRLR contains an extracellular domain with a cytokine homology module formed by two fibronectin type III domains, D1 and D2, followed by a transmembrane domain and cytoplasmic domain. PRLR is expressed on cells in mammary glands, pituitary gland, and other tissues. PRLR exists as a monomer and can form dimers. PRLR dimerization is a critical mechanism in PRL signaling, influencing numerous physiological and pathological processes. PRLR pathological dimerization, including constitutive or ligand-independent PRLR dimers sustain abnormal signaling, contributes to cancer, hyperprolactinemia, and immune dysfunction. Dysregulation of PRLR can promote tumor activity and positively regulate the proliferation of malignant cells in breast cancer. PRLR is an attractive therapeutic target for PRLR related diseases including breast cancer, hyperprolactinemia, and metabolic disorders. The recombinant dimeric protein mimicking the PRLR structural dynamics may offer better immunogen and antigen to develop precision-targeted therapeutics with fewer side effects.