
Product Name: Human VEGFR2 Protein Dimer, His Tag

Product Code: CSP-26127-01

FOR RESEARCH USE ONLY (RUO)

Protein Name: VEGFR2, Protein Dimer

Alternate Name(s): Kinase insert domain receptor, KDR, cluster of differentiation 309, CD309, Fetal Liver Kinase 1, Flk1, VEGFR, VEGFR-2

Expression Host
HEK293T

Amino Acid Range
A20 - E764

Protein Construct

VEGFR2 dimer protein contains a VEGFR2 extracellular domain (UniProt# P35968) fused with a proprietary dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

SDS-Page Molecular Weight

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

Purity

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

Shipping Conditions
Frozen Ice Packs

Stability & Storage
-20°C

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4 with 10% trehalose as a protectant

Reconstitution of lyophilized product

For best performance, we strongly recommend you reconstitute the lyophilized product with deionized water to a stock solution of 500 µg/mL.

Solubilize for 20 minutes at room temperature with occasional gentle mixing. Avoid shaking or vortexing.

For 25µg product size:

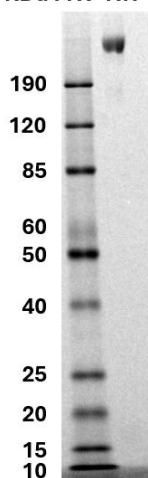
Reconstitute with 50 µL sterile deionized water.

For 100µg product size:

Reconstitute with 200 µL sterile deionized water.

SDS-PAGE

KDa MW NR



MW: Molecular Weight marker reduced condition

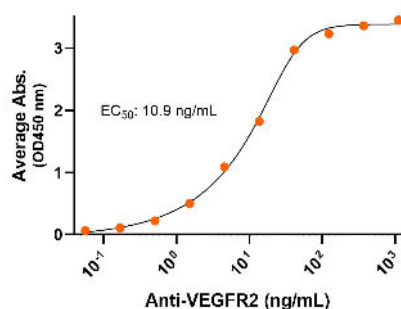
NR: VEGFR2 dimer under non-reduced condition

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

Antibody Binding

Human VEGFR2-His dimer, ELISA

0.2 µg of VEGFR2 dimer per well

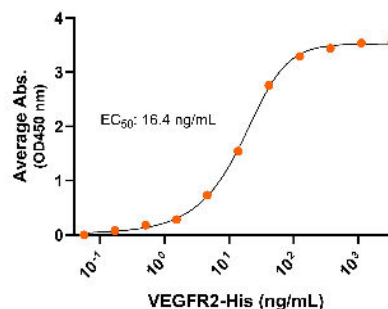


Immobilized human VEGFR2-His dimer protein (Cat. No. CSP-26127-01) at 2 µg/mL (100 µL/well) can bind anti-human VEGFR2 monoclonal antibody with half maximal effective concentration (EC₅₀) range of 5.5-21.8 ng/mL (QC tested).

Ligand Binding

Human VEGFR2-His dimer / VEGF-A, ELISA

0.2 µg of VEGF-A protein per well



Immobilized human VEGF-A 2 µg/mL (100 µL/well) can bind human VEGFR2 dimer protein, His tag (Cat. No. CSP-26127-01), with half maximal effective concentration (EC₅₀) range of 8.2-32.8 µg/mL (QC tested).

Background

Human vascular endothelial growth factor receptor 2 (VEGFR2) belongs to the Type IV receptor tyrosine kinase (RTK) family. VEGFR2 is a key receptor in the VEGF (Vascular Endothelial Growth Factor) signaling pathway, involved in angiogenesis, the formation of new blood vessels. VEGFR2 is also known as kinase insert domain receptor (KDR), cluster of differentiation 309 (CD309), and fetal liver kinase 1 (Flk1). VEGFR2, a Type I transmembrane protein, contains an extracellular domain with 7 immunoglobulin-like (Ig-like) domains, a single transmembrane domain, and an intracellular domain. VEGFR2 is mainly expressed on vascular endothelial cells and can bind VEGF-A and VEGF-D. VEGF binding by VEGFR2 causes it to homodimerize which is essential for it to stimulate cellular responses such as vasculogenesis and angiogenesis. In pathological conditions, ligand-independent dimerization of VEGFR2 can contribute to abnormal angiogenesis. Abnormal angiogenesis is associated with a variety of diseases such as tumor neovascularization, diabetic retinopathy, rheumatoid arthritis, and age-related macular degeneration. Abnormal angiogenesis is a major contributing factor in the growth and spread of a variety of cancers and inhibition of VEGFR2 activity offers a potential and promising approach to cancer therapy.