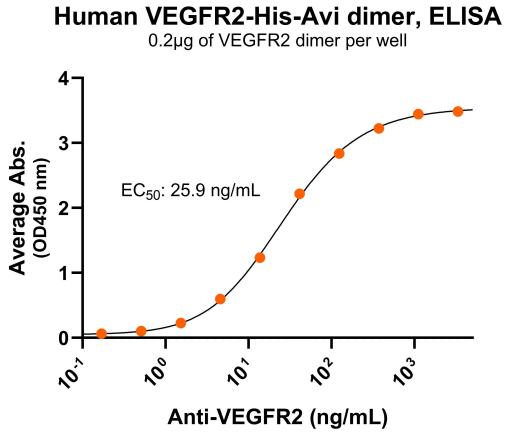
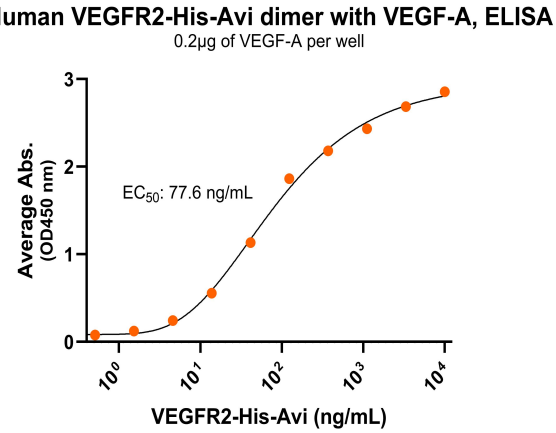
Bioactive, Human VEGFR2 Dimer, His-Avi Tag
Product Code: CSP-25127-03
For Research Use Only (RUO)

Bioactivity – Antibody Binding



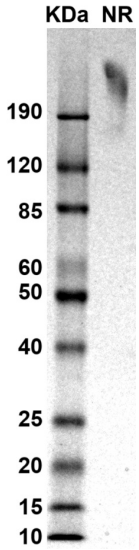
Immobilized human VEGFR2-His-Avi dimer protein (CSP-25127-03) at 2 μg/mL (100 μL/well) can bind anti-human VEGFR2 monoclonal antibody with half maximal effective concentration (EC50) range of 13-51.8 ng/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized human VEGF-A 2 μg/mL (100 μL/well) can bind human VEGFR2 dimer protein, His-Avi tag (Cat. No. CSP-25127-03), with half maximal effective concentration (EC50) range of 38.8-155.2 μg/mL (QC tested).

SDS-PAGE



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.

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Expression Host
HEK293T

Protein Name
VEGFR2

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

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

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

Amino Acid Range
A20-E764

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.

Formulation
0.22µm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^{0}C

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.