

# Recombinant Human VEGFR-2/KDR/CD309 Protein

Catalog No.: RP01378 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	3791	P35968

### Tags

C-hFc&His

### Synonyms

CD309;FLK1;VEGFR;VEGFR2;VEGF Receptor 2;KDR

## Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

### Endotoxin

<0.1EU/μg

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Contact

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## Background

Kinase insert domain receptor (KDR) is also known as CD309, FLK1, VEGFR, VEGFR2, and is one of the subtypes of VEGFR. VEGF receptors are receptors for vascular endothelial growth factor (VEGF). VEGFR2 was shown to be the primary signal transducer for angiogenesis and the development of pathological conditions such as cancer and diabetic retinopathy. It has been shown that VEGFR2 is expressed mainly in the endothelial cells, and the expression is upregulated in the tumor vasculature. Thus the inhibition of VEGFR2 activity and its downstream signaling are important targets for the treatment of diseases involving angiogenesis. VEGFR2 transduces the major signals for angiogenesis via its strong tyrosine kinase activity. However, unlike other representative tyrosine kinase receptors, VEGFR2 does not use the Ras pathway as major downstream signaling but rather uses the phospholipase C-protein kinase C pathway to signal mitogen-activated protein (MAP)-kinase activation and DNA synthesis. VEGFR2 is a direct and major signal transducer for pathological angiogenesis, including cancer and diabetic retinopathy, in cooperation with many other signaling partners; thus, VEGFR2 and its downstream signaling appear to be critical targets for the suppression of these diseases. VEGF and VEGFR2-mediated survival signaling are critical to endothelial cell survival, maintenance of the vasculature and alveolar structure, and regeneration of lung tissue. Reduced VEGF and VEGFR2 expression in emphysematous lungs has been linked to increased endothelial cell death and vascular regression.

## Basic Information

### Description

Recombinant Human VEGFR-2/KDR/CD309 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala20-Glu764) of human VEGFR2/KDR (Accession #NP\_002244.1) fused with a hFc, 6×His tag at the C-terminus.

### Bio-Activity

1. Measured by its binding ability in a functional ELISA. Immobilized Human VEGF121 at 2 μg/mL (100 μL/well) can bind Human KDR with a linear range of 0.2-22.5 ng/mL. 2. Measured by its binding ability in a functional ELISA. Immobilized Human VEGF165 at 2 μg/mL (100 μL/well) can bind Human KDR with a linear range of 0.2-38.3 ng/mL.

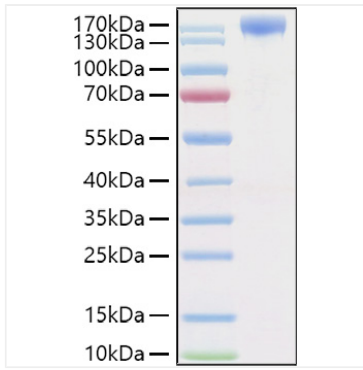
### Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

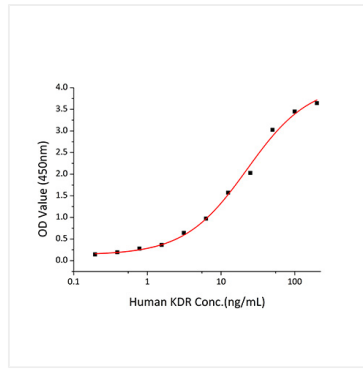
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

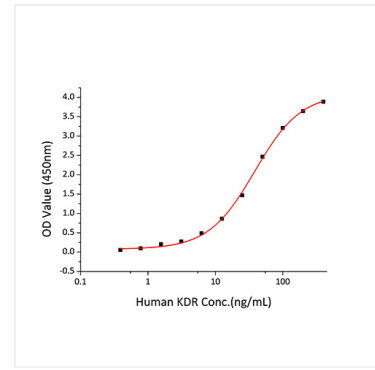
## Validation Data



Recombinant Human VEGFR-2/KDR/CD309 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 160-170kDa.



Immobilized Recombinant Human VEGF121 at 2  $\mu\text{g/mL}$  (100  $\mu\text{L/well}$ ) can bind Human KDR with a linear range of 0.2-22.5 ng/mL.



Immobilized Recombinant Human VEGF165 at 2  $\mu\text{g/mL}$  (100  $\mu\text{L/well}$ ) can bind Human KDR with a linear range of 0.2-38.3 ng/mL.