

RP01470

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Recombinant Mouse VEGFR-2/KDR/CD309 Protein

Catalog No.: RP01470

Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Mouse	16542	P35918

Tags

C-His

Synonyms

orv;Flk1;Ly73;Flk-1;Krd-1;VEGFR2;VEGFR-2;sVEGFR-2;KDR;orv;Flk1;Ly73;Flk-1;Krd-1;VEGFR2;VEGFR-2;sVEGFR-2;KDR

Product Information

Source	Purification
HEK293 cells	> 90% 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.

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 Mouse VEGFR-2/KDR/CD309 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala20-Glu762) of mouse VEGFR2/KDR (Accession #NP_034742.2) fused with a 6×His tag at the C-terminus.

Bio-Activity

Measured by its ability to inhibit the VEGF-dependent proliferation of HUVEC human umbilical vein endothelial cells. The ED₅₀ for this effect is 6-23 pg/mL in the presence of 5 ng/mL recombinant mouse VEGF.

Storage

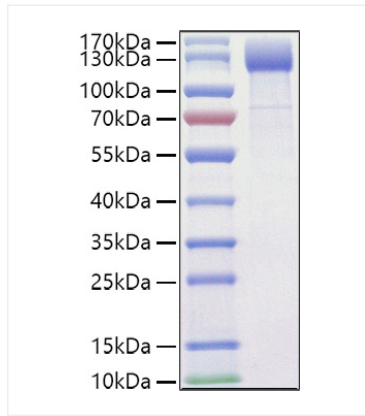
Store the lyophilized protein at -20°C to -80°C for long term. After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week. Avoid repeated freeze/thaw cycles.

Contact

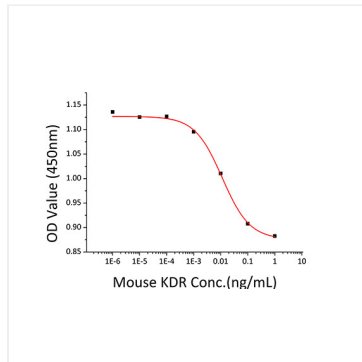


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Validation Data



Recombinant Mouse VEGFR-2/KDR/CD309 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 120-140kDa.



Recombinant Mouse KDR inhibit the VEGF-dependent proliferation of HUVEC human umbilical vein endothelial cells. The ED_{50} for this effect is 6-23 pg/mL in the presence of 5 ng/mL recombinant mouse VEGF.