

Active Recombinant Human KDR Protein, Fc-tagged, Alexa Fluor 647 conjugated

Cat. No. KDR-645HAF647 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Alexa Fluor 647 conjugated recombinant human KDR(Met1-Lys327) fused with Fc region of human IgG1 at the C-terminus was expressed in HEK293.

Species

Human

Source

HEK293

ProteinLength

Met1-Lys327 549

Description

VEGFR2, also called as KDR or Flk-1, is identified as the receptor for VEGF and VEGFC and an early marker for endothelial cell progenitors, whose expression is restricted to endothelial cells in vivo. 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 a 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

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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 is 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.

Form	Lyophilized
Bio-activity	Measured by its ability to inhibit VEGF-dependent proliferation of human umbilical vein endothelial cells (HUVEC) in the presence of 10 ng/mL rhVEGF165. The ED50 for this effect is 40-120 ng/mL.
Molecular Mass	61.5 kDa
N-terminal Sequence Analysis	Ala 20
Endotoxin	< 1.0 EU/ µg protein as determined by the LAL method.
Purity	> 95 % as determined by SDS-PAGE
Characteristic	Disulfide-linked homodimer Labeled with Alexa Fluor 647 via amines Excitation = 650 nm Emission = 668 nm
Stability	Samples are stable for up to 12 months from date of receipt at -70 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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Storage Buffer	Lyophilized from sterile PBS, pH 7.4. Normally 5%-8% trehalose and mannitol are added as protectants before lyophilization.
Shipping	Shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.
Conjugation	Alexa Fluor 647

GENE INFORMATION

Gene Name	KDR kinase insert domain receptor (a type III receptor tyrosine kinase) [Homo sapiens]
Official Symbol	KDR
Synonyms	KDR; kinase insert domain receptor (a type III receptor tyrosine kinase); vascular endothelial growth factor receptor 2; CD309; FLK1; VEGFR; VEGFR2; soluble VEGFR2; fetal liver kinase 1; fetal liver kinase-1; protein-tyrosine kinase receptor Flk-1; tyrosine kinase growth factor receptor;
Gene ID	3791
mRNA Refseq	NM_002253
Protein Refseq	NP_002244
MIM	191306
UniProt ID	P35968

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