

# Recombinant Human KDR

**Cat. No.** KDR-31717TH    **Lot. No.** (See product label)

## SPECIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>    | Recombinant fragment, corresponding to amino acids 805-1356 of Human VEGF Receptor 2, with an N terminal proprietary tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Species</b>             | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>ProteinLength</b>       | 805-1356 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>         | Vascular endothelial growth factor (VEGF) is a major growth factor for endothelial cells. This gene encodes one of the two receptors of the VEGF. This receptor, known as kinase insert domain receptor, is a type III receptor tyrosine kinase. It functions as the main mediator of VEGF-induced endothelial proliferation, survival, migration, tubular morphogenesis and sprouting. The signalling and trafficking of this receptor are regulated by multiple factors, including Rab GTPase, P2Y purine nucleotide receptor, integrin alphaVbeta3, T-cell protein tyrosine phosphatase, etc.. Mutations of this gene are implicated in infantile capillary hemangiomas. |
| <b>Biological activity</b> | 40 U/μg. One unit is defined as the amount of enzyme that will transfer 1 pmol phosphate to Tyr substrate per minute at pH 7.4 and 30°C. Assay buffer: 50 mM HEPES, pH 7.4, 3 mM MgCl <sub>2</sub> , 3 mM MnCl <sub>2</sub> , 1 mM DTT, 3 μM Na-orthovanadate, 0.5 mM ATP, 30 μg/ml Poly                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Form</b>                | Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Purity</b>              | >90% by SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage buffer</b>        | Preservative: None<br>Constituents: 50% Glycerol, 0.05% Tween 20, 3mM DTT, 25mM Tris HCl, 100mM Sodium chloride, 10mM Reduced glutathione, pH 8                                                  |
| <b>Storage</b>               | Aliquot and store at -80°C. Avoid repeated freeze / thaw cycles.                                                                                                                                 |
| <b>Sequence Similarities</b> | Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily. Contains 7 Ig-like C2-type (immunoglobulin-like) domains. Contains 1 protein kinase domain. |

## GENE INFORMATION

|                            |                                                                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>           | KDR kinase insert domain receptor (a type III receptor tyrosine kinase) [ Homo sapiens ]                                                             |
| <b>Official Symbol</b>     | KDR                                                                                                                                                  |
| <b>Synonyms</b>            | KDR; kinase insert domain receptor (a type III receptor tyrosine kinase); vascular endothelial growth factor receptor 2; CD309; FLK1; VEGFR; VEGFR2; |
| <b>Gene ID</b>             | 3791                                                                                                                                                 |
| <b>mRNA Refseq</b>         | NM_002253                                                                                                                                            |
| <b>Protein Refseq</b>      | NP_002244                                                                                                                                            |
| <b>MIM</b>                 | 191306                                                                                                                                               |
| <b>Uniprot ID</b>          | P35968                                                                                                                                               |
| <b>Chromosome Location</b> | 4q11-q12                                                                                                                                             |

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|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pathway</b>  | Angiogenesis, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Endocytosis, organism-specific biosystem; Endocytosis, conserved biosystem; |
| <b>Function</b> | ATP binding; Hsp90 protein binding; growth factor binding; integrin binding; nucleotide binding;                                                                                                                                                         |

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