

**RPES8441**

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## Product Information

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|------------------------------|-----------------------------------|--------------------------|
| <b>Product SKU:</b> RPES8441 | <b>Expression Host:</b> Mammalian | <b>Size:</b> 20µg        |
| <b>Tag:</b> C-His            | <b>Reactivity:</b> Mouse          | <b>Accession:</b> P35918 |

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## Additional Information

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|--------------------------------|--------------------------------|
| <b>Calculated MW:</b> 81.6 kDa | <b>Observed MW:</b> 90-110 kDa |
| <b>Sequence:</b> Ala20-Glu762  |                                |

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## Protein Information

**Background:** VEGFR2 also called 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 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 an 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

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and VEGFR2 expression in emphysematous lungs has been linked to increased endothelial cell death and vascular regression.

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| <b>Synonyms:</b>     | CD309, CD309 antigen, EC 2.7.10.1, Fetal liver kinase 1, FLK-1, FLK1, FLK1, mouse, homolog of, Kdr, Kinase insert domain receptor, Kinase insert domain receptor (a type III receptor tyrosine kinase), KRD1, Ly73, Protein tyrosine kinase receptor FLK1, Protein-tyrosine kinase receptor flk-1, soluble VEGFR2, Tyrosine kinase growth factor receptor, Vascular endothelial growth factor receptor 2, VEGFR, VEGFR 2, VEGFR-2, VEGFR2, VGFR2_HUMAN |
| <b>Endotoxin:</b>    | < 1.0 EU/mg of the protein as determined by the LAL method   |
| <b>Formulation:</b>  | Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.  |
| <b>Purity:</b>       | > 90% as determined by reducing SDS-PAGE.  |
| <b>Bio-Activity:</b> | Not validated for activity   |
| <b>Storage:</b>      | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.  |