



RayBiotech, Inc.

3607 Parkway Lane suite 200
Norcross, GA 30092
Tel: 770-729-2992, 1-888-494-8555
Fax: 770-206-2393
Website: www.raybiotech.com
Email: info@raybiotech.com

Certificate of Analysis and Data Sheet

Recombinant Human Vascular Endothelial Growth Factor Receptor 2

Catalog No.
IP-24-242P

Source
Insect cells

Synonyms

KDR D1-7, sKDR D1-7, Kinase insert domain receptor, Protein-tyrosine kinase receptor Flk-1, CD309, type III receptor tyrosine kinase, FLK1, VEGFR-2.

Introduction

Endothelial cells express three different vascular endothelial growth factor (VEGF) receptors, belonging to the family of receptor tyrosine kinases (RTKs). They are named VEGFR-1 (Flt-1), VEGFR-2 (KDR/Flk-1), VEGFR-3 (Flt-4). Their expression is almost exclusively restricted to endothelial cells, but VEGFR-1 can also be found on monocytes. All VEGF-receptors have seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. VEGFR-2 has a lower affinity for VEGF than the Flt-1 receptor, but a higher signaling activity. Mitogenic activity in endothelial cells is mainly mediated by VEGFR-2 leading to their proliferation. Differential splicing of the *flt-1* gene leads to the formation of a secreted, soluble variant of VEGFR-1 (sVEGFR-1). No naturally occurring, secreted forms of VEGFR-2 have so far been reported. The binding of VEGF₁₆₅ to VEGFR-2 is dependent on heparin.

Description

Soluble VEGFR-2 Human Recombinant produced in baculovirus is monomeric, glycosylated, polypeptide having a molecular mass of 116 kDa. The soluble receptor protein contains only the first 7 extracellular domains, which contain all the information necessary for ligand binding. The sKDR is purified by proprietary chromatographic techniques.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

KDR was lyophilized from a concentrated (1 mg/ml) sterile solution containing 10mM Tris pH-8 and 100mM NaCl. It is recommended to reconstitute the lyophilized VEGFR2 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Storage Conditions

Lyophilized VEGFR-2 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution FLK1 should be stored at 4°C between 2-7 days and for future use below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Purity

Greater than 90.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

Biological Activity

The activity of VEGFR-2_{D1-7} was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces receptors. The ED₅₀ for this effect is typically 10.0 ng/ml.

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