

**Synonym**

KDR, CD309, FLK1, VEGFR, VEGFR2

**Source**

Biotinylated Human VEGF R2, Avitag, His Tag (KDR-H82E5) is expressed from human 293 cells (HEK293). It contains AA Ala 20 - Glu 764 (Accession # [AAI31823](#)).

Predicted N-terminus: Ala 20

**Molecular Characterization**

VEGF R2 (Ala 20 - Glu 764)  
AAI31823      Avi      Poly-his

This protein carries an Avi tag (Avitag™) at the C-terminus, followed by a polyhistidine tag.

The protein has a calculated MW of 85.9 kDa. The protein migrates as 120-150 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Labeling**

*Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.*

**Protein Ratio**

Passed as determined by the HABA assay / binding ELISA.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

&gt;95% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

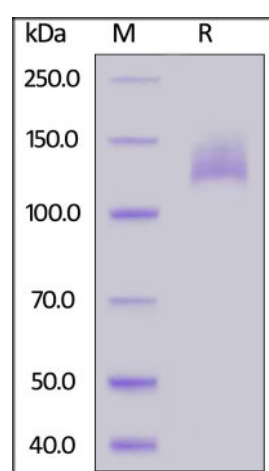
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

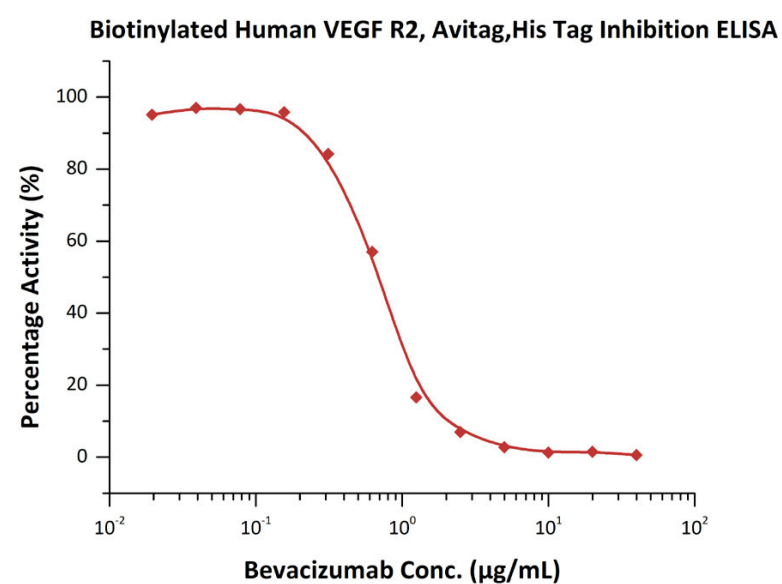
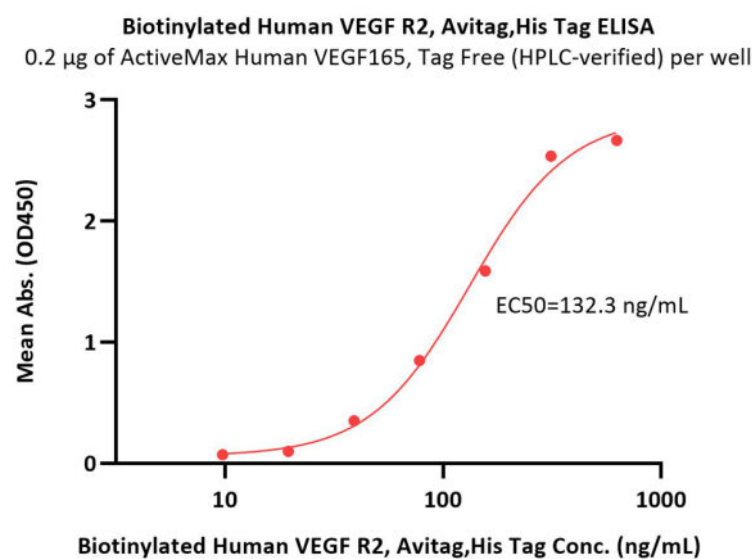
This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Biotinylated Human VEGF R2, Avitag, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

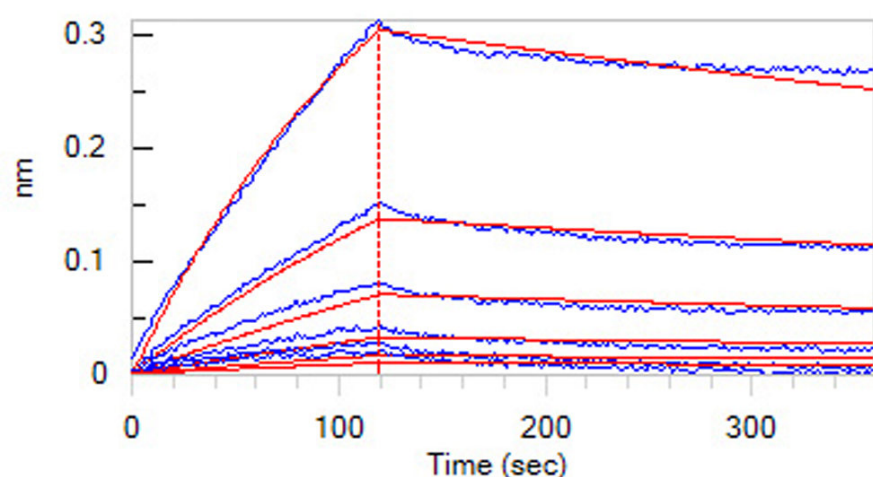
**Bioactivity-ELISA**



Immobilized Human VEGF165, premium grade (Cat. No. VE5-H4210) at 2 µg/mL (100 µL/well) can bind Biotinylated Human VEGF R2, Avitag,His Tag (Cat. No. KDR-H82E5) with a linear range of 10-156 ng/mL (QC tested).

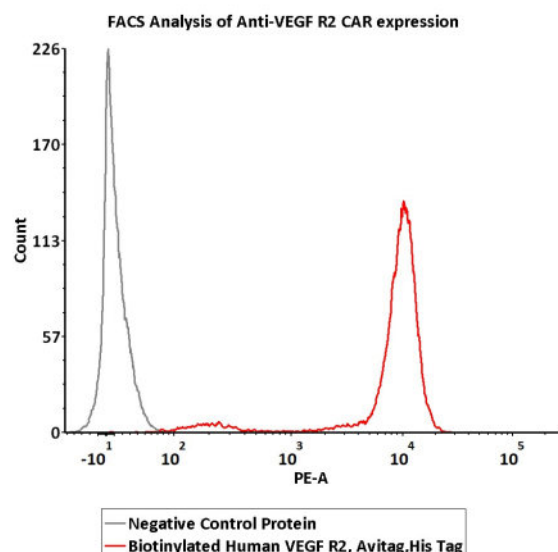
Immobilized Human VEGF165, premium grade (Cat. No. VE5-H4210) at 2 µg/mL (100 µL/well) can bind pre-mixed increasing concentrations of Bevacizumab and 0.5 µg/mL (100 µL/well) Biotinylated Human VEGF R2, Avitag,His Tag (Cat. No. KDR-H82E5) with a half maximal inhibitory concentration (IC50) of 0.70 µg/mL (Routinely tested).

**Bioactivity-BLI**



Loaded Biotinylated Human VEGF R2, Avitag,His Tag (Cat. No. KDR-H82E5) on SA Biosensor, can bind Human VEGF-D, His Tag (Cat. No. VED-H5228) with an affinity constant of 482 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

**Bioactivity-FACS**



2e5 of anti-VEGF R2 CAR-293 cells were stained with 100 µL of 3 µg/mL of Biotinylated Human VEGF R2, Avitag,His Tag (Cat. No.KDR-H82E5) and negative control protein respectively, washed and then followed by PE-SA and analyzed with FACS (Routinely tested).

**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). There are three main subtypes of VEGFR, numbered 1, 2 and 3. The VEGF receptors have an extracellular portion consisting of 7 immunoglobulin-like domains, a single transmembrane spanning region and an intracellular portion containing a split tyrosine-kinase domain. VEGF-A binds to VEGFR-1 (Flt-1) and VEGFR-2 (KDR/Flk-1). VEGFR-2 appears to mediate almost all of the known cellular responses to VEGF. The function of VEGFR-1 is less well defined, although it is thought to modulate VEGFR-2 signaling. Another function of VEGFR-1 may be to act as a dummy/decoy receptor, sequestering VEGF from VEGFR-2 binding (this appears to be particularly important during vasculogenesis in the embryo). In addition, VEGFR2 is able to interact with HIV-1 extracellular Tat protein upon VEGF activation, and seems to enhance angiogenesis in Kaposi's sarcoma lesions.

**Clinical and Translational Updates**

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.