

Recombinant mouse VEGFR1/Flt-1 protein

Catalog Number: ATGP4160

PRODUCT INFORMATION

Expression system

HEK293

Domain

23-759aa

UniProt No.

P35969

NCBI Accession No.

NP_034358.2

Alternative Names

VEGFR1, VEGF R1, VEGFR-1, FLT-1, FLT1, FLT, sFlt1, Emrk2, FRT, Vascular endothelial growth factor receptor 1 isoform 1, Embryonic receptor kinase 2, Fms-like tyrosine kinase 1, Tyrosine-protein kinase FRT, Tyrosine-protein kinase receptor FLT, Vascular permeability factor receptor, fms-related tyrosine kinase 1

PRODUCT SPECIFICATION

Molecular Weight

108.9kDa (970aa)

Concentration

1mg/ml (determined by Absorbance at 280nm)

Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

Purity

> 85% by SDS-PAGE

Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

Biological Activity

Measured by its ability to inhibit proliferation using HUVEC human umbilical vein endothelial cells in the presence of Human VEGF165. The ED50 range \leq 50ng/ml.

Tag

hIgG-Tag

Application

SDS-PAGE, Bioactivity

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

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BACKGROUND

Description

VEGFR1 (Vascular Endothelial Growth Factor Receptor 1), also known as FLT-1 (Fms-like Tyrosine Kinase 1), belongs to the class III subfamily of receptor tyrosine kinases. While VEGFR1, VEGFR2, and VEGFR3 are mainly expressed on endothelial cells, VEGFR1 is uniquely expressed on macrophages and primarily plays inhibitory roles. Inhibitors of VEGFR are used in cancer treatment. VEGFR1 acts as a cell-surface receptor for VEGFA, VEGFB, and PGF, playing essential roles in the development of embryonic vasculature, regulation of angiogenesis, cell survival, cell migration, macrophage function, chemotaxis, and cancer cell invasion. VEGFR1 binds VEGF with higher affinity than VEGFR2 but exhibits weaker kinase activity. The VEGF-kinase ligand/receptor signaling system is crucial for vascular development and the regulation of vascular permeability. Recombinant mouse VEGFR1/Flt-1, fused to hlgG-tag at C-terminus, was expressed in HEK293 cell and purified by using conventional chromatography techniques.

Amino acid Sequence

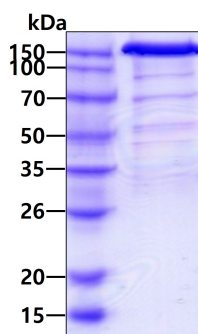
YGSGLKLVV ELSLKGTHV MQAGQTLFLK CRGEEAHSWS LPTTVSQEDK RLSITPPSAC GRDNRQFCST LTLDTAQANH TGLYTCRYLP TSTSKKKKAE SSIYIFVSDA GSPFIEMHTD IPKLVHMTTEG RQLIIPCRVT SPNVTVTLKK PFDLTLTPDG QRITWDSRRG FIANATYKE IGLLNCEATV NGHLYQNTYL THRQNTILD VQIRPPSPVR LLHGQTLVLN CTATTELNTR VQMSWNYPGK ATKRASIRQR IDRSRSHNNV FHSVLIKNNV ESRDKGLYTC RVKSGSSFQS FNTSVHVYEK GFISVKHRKQ PVQETTAGRR SYRLSMKVKA FPSPEIVWLK DGSPATLKSA RYLVHGYSLI IKDVTTEDAG DYTILLGIKQ SRLFKNLTAT LIVNVKPIY EKSIVSLPSP PLYPLGSRQV LTCTVYGIPR PTITWLWHPH HHNHSKERYD FCTENEESEFI LDPSSNLGNR IESISQRMTV IEGTNKTVST LVVADSQTPG IYSCRAFNKI GTVERNIFY VTDVPNGFHV SLEKMPAEGE DLKLSVVNK FLYRDITWIL LRTVNNRTHM HSISKQKMAT TQDYSITLNL VIKNVSLEDS GTYACRARNI YTGEDILRKT EVLVRDSEAP HLLQNLSDYE VSISGSTTLD CQARGVPAPQ ITWFKNNHKI QQEPGILGP GNSTLFIERV TEEDEGVYRC RATNQKGAVE SAAYLTVQGT SDKSNLE<LEP KSCDKTHTCP PCPAPELLGG PSVFLFPPKP KDTLMISRTP EVTCVVVDVS HEDPEVKFNW YVDGVEVHNA KTKPREEQYN STYRVVSVLT VLVHGDWLNGK EYKCKVSNKA LPAPIEKTIS KAKGQPREPQ VYTLPPSRDE LTKNQVSLTLC LVKGFYPSDI AVEWESNGQP ENNYKTTTPV LQSDGSFFLY SKLTVDKSRW QQGNVFSCSV MHEALHNHYT QKSLSLSPGK>

General References

- Peters, K.G. et al. (1993) Proc. Natl. Acad. Sci. USA 90:8915-8919.
- Kendall R.L., et al., (1993), Natl. Acad. Sci. U.S.A. 90:10705-10709.
- Herley M.T., et al., (1999), Biochem. Biophys. Res. Commun. 262:731-738.
- Kendall R.L., et al., (1993), Natl. Acad. Sci. U.S.A. 90:10705-10709.

DATA

SDS-PAGE

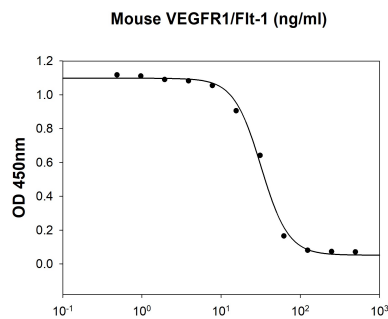


3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain

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Biological Activity



Mouse VEGFR1/Flt-1 inhibit proliferation of the HUVEC human umbilical vein endothelial cells in the presence of Human VEGF165. The ED50 range \leq 50 ng/ml.