SANTA CRUZ BIOTECHNOLOGY, INC.

p-Flk-1 (Tyr 1214): sc-101820

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Three cell membrane receptor tyrosine kinases, Flt (also designated VEGF-R1), Flk-1 (also designated VEGF-R2) and Flt-4, putatively involved in the growth of endothelial cells, are characterized by the presence of seven immunoglobulin-like sequences in their extracellular domain. These receptors exhibit high degrees of sequence homology to each other as well as lesser degrees of homology to the class III receptors, including CSF-1/Fms, PDGR, SLFR/Kit and Flt-3/Flk-2. Two members of this receptor class, Flt-1 and Flk-1, have been shown to represent high affinity receptors for vascular endothelial growth factors (VEGFs). In response to VEGF binding, Flk-1 undergoes auto-phosphorylation in the kinase insert domain on Tyr 951 and Tyr 996 and in the tyrosine kinase catalytic domain on Tyr 1054 and Tyr 1059. Upon activation, Flk-1 recruits several adapter proteins, including Shc, GRB2, Nck and protein tyrosine phosphatases SHP-1 and SHP-2. The mediation of VEGF signaling by Flk-1 promotes proliferation, chemotaxis, prouting and angiogenesis.

CHROMOSOMAL LOCATION

Genetic locus: KDR (human) mapping to 4q12; Kdr (mouse) mapping to 5 C3.3.

SOURCE

p-Flk-1 (Tyr 1214) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 1214 phosphorylated Flk-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

p-Flk-1 (Tyr 1214) is recommended for detection of Tyr 1214 phosphorylated Flk-1 of human origin, correspondingly phosphorylated Tyr 1212 Flk-1 of mouse origin and correspondingly phosphorylated Tyr 1210 Flk-1 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Flk-1 siRNA (h): sc-29318, Flk-1 siRNA (m): sc-35390, Flk-1 shRNA Plasmid (h): sc-29318-SH, Flk-1 shRNA Plasmid (m): sc-35390-SH, Flk-1 shRNA (h) Lentiviral Particles: sc-29318-V and Flk-1 shRNA (m) Lentiviral Particles: sc-35390-V.

Molecular Weight of immature p-Flk-1: 150 kDa.

Molecular Weight of intermediate glycosylated p-Flk-1: 200 kDa.

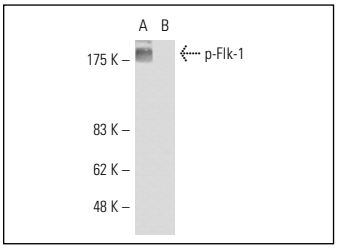
Molecular Weight of mature glycosylated p-Flk-1: 230 kDa.

Positive Controls: SK-OV-3 whole cell lysate.

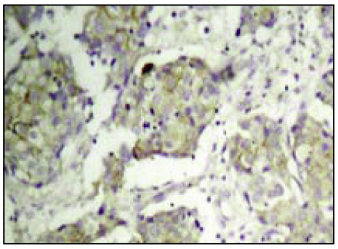
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of phosphorylated Flk-1 expression in SKOV3 whole cell lysates. Blots were probed with p-Flk-1 (Tyr 1214): sc-101820 (**A**) and p-Flk-1 (Tyr 1214): sc-101820 preincubated with cognate phosphorylated peptide (**B**).



p-Flk-1 (Tyr 1214): sc-101820. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Wuestefeld, R., et al. 2012. Impact of vegf on astrocytes: analysis of gap junctional intercellular communication, proliferation, and motility. Glia 60: 936-947.
2. Piastowska-Ciesielska, A.W., et al. 2013. Correlation between VEGFR-2 receptor kinase domain-containing receptor (KDR) mRNA and angiotensin II receptor type 1 (AT1-R) mRNA in endometrial cancer. Cytokine 61: 639-644.
3. Doloff, J.C., et al. 2014. Anti-tumor innate immunity activated by intermittent metronomic cyclophosphamide treatment of 9L brain tumor xenografts is preserved by anti-angiogenic drugs that spare VEGF receptor 2. Mol. Cancer 13: 158.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.