

# Flt-3/Flk-2 (C-20): sc-479

## BACKGROUND

Stem cell tyrosine kinase (STK-1) has been cloned from a CD34<sup>+</sup> hematopoietic stem cell enriched library and identified as the human homolog of a previously identified gene of mouse origin designated either Flk-2 or Flt-3. The STK-1 cDNA encodes a protein of 993 amino acids with 85% identity to Flt-3/Flk-2. STK-1 is a member of the type III receptor tyrosine kinase family that includes Kit (steel factor receptor), Fms and PDGF. STK-1 expression in blood and marrow is restricted to CD34<sup>+</sup> cells, a population greatly enriched for hematopoietic stem/progenitor cells. STK-1 antiserum recognizes 2 polypeptides in these cells. The mouse homolog of STK-1, designated Flt-3/Flk-2, is expressed at high levels in hematopoietic cells and also in neural, gonadal, hepatic and placental tissues. It has been suggested that STK-1 and its murine homolog Flt-3/Flk-2 may function as growth factor receptors on hematopoietic stem and/or progenitor cells.

## CHROMOSOMAL LOCATION

Genetic locus: FLT3 (human) mapping to 13q12.2.

## SOURCE

Flt-3/Flk-2 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Flt-3/Flk-2 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.

Blocking peptide available for competition studies, sc-479 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Flt-3/Flk-2 (C-20) is recommended for detection of Flt-3/Flk-2 p160 and p130 of human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Flt-3/Flk-2 siRNA (h): sc-29320, Flt-3/Flk-2 shRNA Plasmid (h): sc-29320-SH and Flt-3/Flk-2 shRNA (h) Lentiviral Particles: sc-29320-V.

Molecular Weight of Flt-3/Flk-2 polypeptides: 160/130 kDa.

Positive Controls: THP-1 cell lysate: sc-2238.

## RESEARCH USE

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

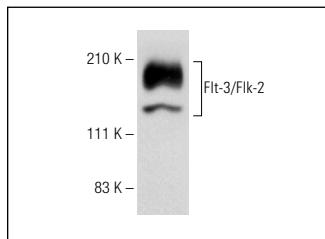
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

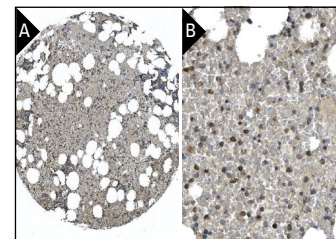
## STORAGE

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

## DATA



Flt-3/Flk-2 (C-20): sc-479. Western blot analysis of Flt-3/Flk-2 expression in THP-1 whole cell lysate.



Flt-3/Flk-2 (C-20): sc-479. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of bone marrow poietic cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Bertho, J.M., et al. 2000. CD135 (Flk-2/Flt-3) expression by human thymocytes delineates a possible role of Flt-3-ligand in T cell precursor proliferation and differentiation. *Scand. J. Immunol.* 52: 53-61.
- Jiang, J. and Griffin, J.D. 2010. Wnt/ $\beta$ -catenin pathway modulates the sensitivity of the mutant FLT3 receptor kinase inhibitors in a GSK-3 $\beta$  dependent manner. *Genes Cancer* 1: 164-176.
- Guerrouahen, B.S., et al. 2010. Dasatinib inhibits the growth of molecularly heterogeneous myeloid leukemias. *Clin. Cancer Res.* 16: 1149-1158.
- Arora, D., et al. 2011. Protein-tyrosine phosphatase DEP-1 controls receptor tyrosine kinase FLT3 signaling. *J. Biol. Chem.* 286: 10918-10929.
- Godfrey, R., et al. 2012. Cell transformation by FLT3 ITD in acute myeloid leukemia involves oxidative inactivation of the tumor suppressor protein-tyrosine phosphatase DEP-1/ PTPRJ. *Blood* 119: 4499-4511.
- Moore, A.S., et al. 2012. Selective FLT3 inhibition of FLT3-ITD<sup>+</sup> acute myeloid leukaemia resulting in secondary D835Y mutation: a model for emerging clinical resistance patterns. *Leukemia* 26: 1462-1470.
- Köthe, S., et al. 2013. Features of Ras activation by a mislocalized oncogenic tyrosine kinase: FLT3 ITD signals via K-Ras at the plasma membrane of acute myeloid leukemia cells. *J. Cell Sci.* 126: 4746-4755.
- Mashkani, B., et al. 2014. Differences in growth promotion, drug response and intracellular protein trafficking of FLT3 mutants. *Iran. J. Basic Med. Sci.* 17: 867-873.



Try **Flt-3/Flk-2 (SF1.340): sc-19635** or **Flt-3/Flk-2 (BV10): sc-21788**, our highly recommended monoclonal alternatives to Flt-3/Flk-2 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Flt-3/Flk-2 (SF1.340): sc-19635**.