SANTA CRUZ BIOTECHNOLOGY, INC.

Flt-3/Flk-2 (SF1.340): sc-19635

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Stem cell tyrosine kinase (STK-1) has been cloned from a CD34+ 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+ cells, a population greatly enriched for hematopoietic stem/progenitor cells. STK-1 antiserum recognizes two 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 (SF1.340) is a mouse monoclonal antibody raised against an extracellular domain of Flt-3/Flk-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Flt-3/Flk-2 (SF1.340) is available conjugated to agarose (sc-19635 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-19635 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19635 PE), fluorescein (sc-19635 FITC), Alexa Fluor® 488 (sc-19635 AF488), Alexa Fluor® 546 (sc-19635 AF546), Alexa Fluor® 594 (sc-19635 AF594) or Alexa Fluor® 647 (sc-19635 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19635 AF680) or Alexa Fluor® 790 (sc-19635 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Flt-3/Flk-2 (SF1.340) 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) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

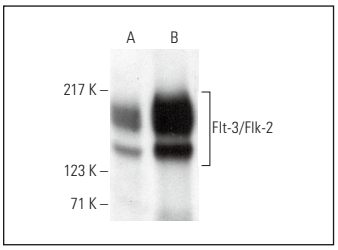
RESEARCH USE

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

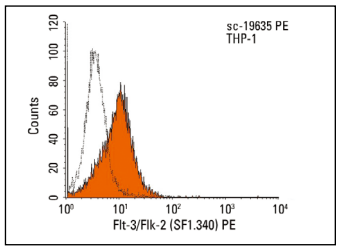
STORAGE

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

DATA



Western blot analysis of Flt-3/Flk-2 expression in THP-1 whole cell lysate (**A**) and THP-1 whole cell lysate immunoprecipitated with Flt-3/Flk-2 (SF1.340): sc-19635 (**B**) and detected with Flt-3/Flk-2 (C-20): sc-479. Immunoprecipitation reagent used: Protein G PLUS-Agarose: sc-2002.



Flt-3/Flk-2 (SF1.340) PE: sc-19635 PE. FCM analysis of THP-1 cells. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Basso, K., et al. 2004. Gene expression profiling of hairy cell leukemia reveals a phenotype related to memory B cells with altered expression of chemokine and adhesion receptors. J. Exp. Med. 199: 59-68.
2. Karki, R., et al. 2011. The MARCH family E3 ubiquitin ligase K5 alters monocyte metabolism and proliferation through receptor tyrosine kinase modulation. PLoS Pathog. 7: e1001331.
3. 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.
4. Sandhöfer, N., et al. 2016. The new and recurrent FLT3 juxtamembrane deletion mutation shows a dominant negative effect on the wild-type FLT3 receptor. Sci. Rep. 6: 28032.
5. Duan, C., et al. 2020. Deficiency of core fucosylation activates cellular signaling dependent on FLT3 expression in a Ba/F3 cell system. FASEB J. 34: 3239-3252.
6. Yamawaki, K., et al. 2021. FLT3-ITD transduces autonomous growth signals during its biosynthetic trafficking in acute myelogenous leukemia cells. Sci. Rep. 11: 22678.
7. Xu, D., et al. 2022. Autophagy activation mediates resistance to FLT3 inhibitors in acute myeloid leukemia with FLT3-ITD mutation. J. Transl. Med. 20: 300.
8. Obata, Y., et al. 2023. Golgi retention and oncogenic KIT signaling via PLCγ2-PKD2-PI4KIIIβ activation in gastrointestinal stromal tumor cells. Cell Rep. 42: 113035.

PROTOCOLS

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