

Flt-3/Flk-2 (BV10): sc-21788

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.

REFERENCES

1. Matthews, W., et al. 1991. A receptor tyrosine kinase specific to hematopoietic stem and progenitor cell-enriched populations. *Cell* 65: 1143-1152.
2. Rosnet, O., et al. 1991. Murine Flt-3, a gene encoding a novel tyrosine kinase receptor of the PDGFR/CSF1R family. *Oncogene* 6: 1641-1650.
3. Rosnet, O., et al. 1991. Isolation and chromosomal localization of a novel Fms-like tyrosine kinase gene. *Genomics* 9: 380-385.
4. Lyman, S.D., et al. 1993. Characterization of the protein encoded by the Flt-3 (Flk-2) receptor-like tyrosine kinase gene. *Oncogene* 8: 815-822.
5. Maroc, N., et al. 1993. Biochemical characterization and analysis of the transforming potential of the Flt-3/Flk-2 receptor tyrosine kinase. *Oncogene* 8: 909-918.
6. Small, D., et al. 1994. STK-1, the human homolog of Flk-2/Flt-3, is selectively expressed in CD34⁺ human bone marrow cells and is involved in the proliferation of early progenitor/stem cells. *Proc. Natl. Acad. Sci. USA* 91: 459-463.

CHROMOSOMAL LOCATION

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

SOURCE

Flt-3/Flk-2 (BV10) is a mouse monoclonal antibody raised against pro B-cell line BV-173.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Flt-3/Flk-2 (BV10) is available conjugated to either phycoerythrin (sc-21788 PE) or fluorescein (sc-21788 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

Flt-3/Flk-2 (BV10) 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)] and flow cytometry (1 µg per 1 x 10⁶ 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.

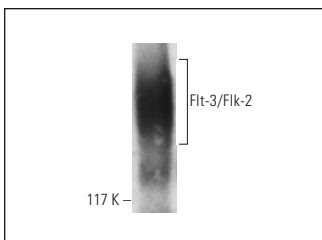
Molecular Weight of Flt-3/Flk-2 polypeptides: 160/130 kDa.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Western blot analysis of Flt-3/Flk-2 expression in THP-1 whole cell lysate immunoprecipitated with Flt-3/Flk-2 (BV10): sc-21788 and detected with Flt-3/Flk-2 (S-18): sc-480.

RESEARCH USE

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

PROTOCOLS

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



See **Flt-3/Flk-2 (SF1.340): sc-19635** for Flt-3/Flk-2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.