

# Monoclonal Antibody CD135

PN IM2036 – Purified – Freeze-dried – 0.2 mg – Clone SF1.340

For Research Use Only. Not for use in diagnostic procedures.

## SPECIFICITY

CD135, also called FLT3 (1), Flk2 (2) or STK1 (3), is a member of the class III receptor tyrosine kinase (RTK) family of transmembrane glycoproteins (4).

CD135 antigen has a molecular weight of 130-155 kDa whose extracellular region is composed of five immunoglobulin like domains. This receptor directly binds its specific ligand (FLT3 ligand or FL), and transduces regulatory signals through intracytoplasmic tyrosine kinase activity. Other class III RTKs are CD117 (c-kit molecule), macrophage colony-stimulating factor receptor (M-CSFR), and the two platelet-derived growth factor receptors (PDGFRs) (4). CD135 is expressed on multipotential, myelomonocytic, and primitive B cell progenitors. In normal bone marrow, it is expressed on subsets of CD34-positive as well as CD34-negative cells (5). In these cells, the level of expression of CD135 is rather low. Most of the CD34<sup>bright</sup>CD135<sup>+</sup> cells co-express CD117 at high levels. They may represent early cycling, but not quiescent stem cells (5).

The SF1.340 monoclonal antibody (mAb) is specific for an extracellular domain of CD135 molecule and does not compete with the FLT3 ligand. It cannot induce auto-phosphorylation of FLT3 receptor on tyrosine residues. It can decrease, to some extent, the CD135 surface expression, by mimicking the endocytosis effect of FLT3 ligand on FLT3 receptor (5).

## REAGENT

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<b>Clone</b>	SF1.340
<b>Isotype</b>	IgG1 (Kappa)
<b>Species</b>	Mouse
<b>Immunogen</b>	Transfected Ba/F3 cells expressing FLT3
<b>Hybridoma</b>	Myeloma X63-Ag8.653 x Balb/c spleen cells
<b>Source</b>	Ascites fluid
<b>Purification</b>	Ion exchange or affinity chromatography
<b>Buffer</b>	1 mg/mL bovine serum

albumin in phosphate-buffered saline

## APPLICATION

Studies of CD135 positive cells by flow cytometry, Immunoprecipitation.

## STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use antibody beyond the expiration date on the label.
4. Avoid microbial contamination of reagents or incorrect results might occur.
5. Use good laboratory practices when handling this reagent.

## STORAGE CONDITIONS AND STABILITY

This freeze-dried form may be stored at 2 – 8°C until the expiration date stated on the vial label.

No preservative has been added.

## REAGENT PREPARATION

Depending of usage, reconstitute with 1 mL of distilled water, with or without 0.1% sodium azide (w/v).

The reconstituted form including 0.1% sodium azide may be stored for up to one month at 2 – 8°C.

The reconstituted form without sodium azide can be stored at –20°C or less, until the expiration date stated on the vial label.

In this case, aliquotting is recommended to avoid multiple freezing / thawing cycles.

## PROCEDURE

For each application, it is recommended to establish the right range of antibody dilutions to be used for the experiment.

## SELECTED RESEARCH REFERENCES

1. Rosnet, O., Marchetto, S., deLapeyrière, O., Birnbaum, D., "Murine *Flt3*, a gene encoding a novel tyrosine kinase

receptor of the PDGFR/CSF1R family", 1991, *Oncogene*, 6, 1641-1650.

2. Matthews, W., Jordan, C., Wiegand, G., Pardoll, D., Lemischla, I., "A receptor tyrosine kinase specific to hematopoietic stem and progenitor cell-enriched populations", 1991, *Cell*, 65, 1143-1152.
3. Small, D., Levenstein, M., Kin, E., Carow, C., Amin, S., Rockwell, P., Witte, L., Burrow, C., Ratajczak, M., Gewirtz, A., Civin, C., "STK-1, the human homolog of Flk-2/Flt-3, is selectively expressed in CD34<sup>+</sup> human bone marrow cells and is involved in the proliferation of early progenitors / stem cells", 1994, *Proc. Natl. Acad. Sci.*, 91, 459-463.
4. Rosnet, O., Bühring, H.J., deLapeyrière, O., Beslu, N., Lavagna, C., Marchetto, S., Rappold, I., Drexler, H.G., Birg, F., Rottapel, R., Hannum, C., Dubreuil, P., Birnbaum, D., "Expression and signal transduction of the FLT3 tyrosine kinase receptor", 1996, *Acta Haematol.*, 95, 218-223.
5. Bühring, H.J., Birnbaum, D., Brasel, K., Civin, C.I., Gotze, K., Lyman, S., Rappold, I., Rosnet, O., "CD35 (FLT3/FLK2/STK-1) workshop panel report", 1997, in *Leucocyte Typing VI, White Cell Differentiation Antigens*. Kishimoto, T., et al., Eds., Garland Publishing Inc., 875-879.

## PRODUCT AVAILABILITY

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For additional information in the USA, call 800-526-7694.

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