IOTest® CD135-PE

PN IM2234U – 2 mL Liquid – 20 µL / test* – Clone SF1.340

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

SPECIFICITY

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

The CD135 antigen has a molecular weight of 130 – 155 kDa. Its extracellular region is composed of five immunoglobulin like domains. This receptor directly binds a specific ligand (FLT3 ligand or FL), and transduces regulatory signals through intracytoplasmic tyrosine kinase activity (4).

Other members of the class III RTKs are CD117 (or c-kit molecule), CD115 (macrophage colony-stimulating factor receptor: or M-CSFR), and CD140a and CD140b (or PDGFRs: two platelet-derived growth factor receptors) (4).

The CD135 antigen is expressed on myelomonocytic and primitive B cell progenitors. On normal bone marrow cells, expression of CD135 can be found on CD34-positive as well as CD34-negative cells.

Most of the CD34bright, CD135-positive cells co-express CD117 at high levels. They may represent early cycling, not quiescent stem cells. CD135-positive cells in the CD34 low and CD34-negative populations do not co-express CD117 molecule and may represent B-lymphoid precursors.

The SF1.340 monoclonal antibody recognizes an extracellular domain of CD135. It has been assigned to the CD135 cluster of differentiation during the 6th International Workshop on Human Leucocyte Differentiation Antigens, in Kobe, Japan, in 1996 (WS code: C-50 Section C) (5).

REAGENT

IOTest CD135-PE Conjugated Antibody
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Clone	SF1.340
Isotype	IgG1, mouse
Immunogen	Transfected Ba/F3 cells expressing FLT3
Hybridoma Source	X63-Ag8.653 x Balb/c Ascites fluid
Purification	Ion exchange or affinity chromatography
Conjugation	R-phycoerythrin (PE) is conjugated at 0.5 – 1.5 moles of PE per mole of Ig.
Fluorescence	PE (orange-red) Excites at 486 – 580 nm Emits at 568 – 590 nm

REAGENT CONTENTS

This reagent is provided in phosphate-buffered saline, with 0.1% sodium azide (NaN_3) as preservative, and 2.0 mg / mL bovine serum albumin (BSA).

STATEMENT OF WARNINGS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Do not use antibody beyond the expiration date on the label.
3. Samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
4. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
5. Minimize exposure of reagent to light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.

STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

EVIDENCE OF DETERIORATION

Any change in the physical appearance of this PE-labeled reagent (clear colorless to pinkish liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

REAGENT PREPARATION

No preparation is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

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 population", 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 $CD34^+$ human bone marrow cells and is involved in the proliferation of early progenitors / stem cells", 1994, Proc. Natl. Acad. Sci. USA, 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., Götze, K., Lyman, S., Rappold, I., Rosnet, O., "CD135 (FLT3 / FLK2 / STK1) workshop panel report", 1997, Leucocyte Typing VI, White Cell Differentiation Antigens. Kishimoto, T., et al, Eds., Garland Publishing, Inc., 875-879.

PRODUCT AVAILABILITY

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PE is licensed under patent 4,520,110.

For additional information in the USA, call 800-526-7694.
Outside the USA, contact your local Beckman Coulter representative.

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TRADEMARKS

Manufactured by:
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(*): 20 µL is the quantity of product sufficient to stain 5×10^5 cells in a standard immunofluorescence assay