Hu-HLA-DR/CD34
2 Color FCM Reagent: *sc-3942*

BACKGROUND

Human HLA-DR/CD34: sc-3942 is a direct immunofluorescence reagent formatted to identify and determine the percentage of myeloid progenitor cells in erythrocyte-lysed whole blood, based on cell-surface antigen expression. HLA-DR is a class II MHC antigen that is expressed on B lymphocytes, monocytes, macrophages, activated T lymphocytes, activated NK lymphocytes and on human hematopoietic progenitor cells (1-3). HLA-DR is also present on thymic epithelium, B-lymphocyte-dependent areas of spleen and lymph node and B-cell lymphomas (4). CD34 is a marker for myeloid progenitor cells (5). CD34 expression is highest on early hematopoietic progenitor cells, decreases as cells mature and is absent on fully differentiated hematopoietic cells (6).

Antigen Expression	Cell Type Identified
HLA-DR+	Hematopoietic Progenitors
CD34+	Myeloid Progenitor Cells
HLA-DR+ CD34+	Early hematopoietic progenitors

STORAGE

Store at 4° C. Do not freeze. Stable for one year from the date of shipment. Protect reagents from prolonged exposure to light.

PRODUCT

Supplied in 1.0 ml of PBS containing 0.1% azide and 0.1% gelatin. Sufficient for 50 tests. This product has been titrated for optimal performance. Recommended use is 20 uL per test ($1x10^6$ cells). **For research use only. Not for use in diagnostic procedures.**

INSTRUMENT

Human HLA-DR/CD34: sc-3942 is recommended for use with either a single or dual laser Flow Cytometer fitted with appropriate acquisition and analysis software, such as the FACSCalibur™ Flow Cytometer fitted with CellQuest™ Software by Becton Dickinson.

The flow cytometer must be equipped with a 488 nm laser and must be capable of detecting light scatter (forward and side) and two-color fluorescence with emission detectable in two ranges: 515-545 nm, 562-607 nm.

Antigen	Clone	Isotype	Label*	Detection Range (nm)
HLA-DR	L243	IgG_{2a}	FITC	515-545
CD34	ICO115	IgG_1	PE	562-607

*Fluorescent labels include FITC: Fluorescein isothiocyanate; PE: phycoerythrin

ISOTYPE CONTROL

sc-3942 CON (IgG_{2a} FITC/IgG_1 PE) is the isotype matched negative control for this system and is suitable for 50 tests.

REFERENCES

1. Alonso, M.C., Navarrete, C., Solana, R., Torres, A., Pena, J., and Festenstein, H. 1985. Differential expression of HLA-DR and HLA-DQ antigens on normal cells of the myelomonocytic lineage. Tissue Antigens 26: 310-317.

2. Lampson, L. and Levy, R. 1980. Two populations of Ia-like molecules on a B cell line. J. Immunol. 125: 293-299.

3. Brodsky, F. 1984. A matrix approach to human class I histocompatibility antigens: Reactions of four monoclonal antibodies with the products of nine haplotypes. Immunogenetics 19: 179-194.

4. Warnke, R.A. and Levy, R. 1980. Detection of T and B antigens with hybridoma monoclonal antibodies: a biotin-avidin-horseradish peroxidase method. J. Histochem. Cytochem. 28: 771-776.

5. Klingemann, H.G., Gong, H.J., Maki, G., Horsman, D.E., Dalal, B.I., and Phillips, G.L. 1994. Establishment and characterization of a human leukemic cell line (SR-91) with features suggestive of early hematopoietic progenitor cell origin. Leuk. Lymphoma 12: 463-470.

6. Civin, C.I., Banquerigo, M.L., Strauss, L.C., and Loken, M.R. 1987. Antigenic analysis of hematopoiesis. VI. Flow cytometric characterization of My-10-positive progenitor cells in normal human bone marrow. Exp. Hematol. 15: 10-17.

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