

Intracellular Flow Cytometry

Dako's IntraStain Kit and Intracellular Markers



Dako

An Agilent Technologies Company



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Intracellular staining in flow cytometry is a useful technique in analysis of intracellular antigens and has emerged as a powerful tool in the study of immunological signaling. **Dako's IntraStain** is a two-step lysing and fixation kit that can be used for permeabilization of single-cell suspensions.

This procedure allows immunological detection of intracellular antigens while the cellular structure, morphologic light scatter and cell surface immunoreactivity remain intact. Cells treated with IntraStain can, therefore, be identified in flow cytometry by their light scatter properties and surface marker expression, while simultaneously being analyzed for intracellular antigens. Dako also offers a range of markers that have been optimized for labeling cells when used in combination with Dako's IntraStain.

Antibodies Useful for Identifying Intracellular Antigens

Bromodeoxyuridine (BrdU): Labels cells which have incorporated bromodeoxyuridine into their DNA during the S-phase of the cell cycle. Bromodeoxyuridine is a thymidine analog, capable of being incorporated into DNA in place of thymidine during DNA synthesis. Detection of BrdU is an important step in the study of cell cycle kinetics.

BCL2 oncoprotein: Reacts with the BCL2 oncoprotein encoded by the BCL2 gene involved in the t(14;18) chromosomal translocation. The BCL2 oncoprotein is an integral membrane protein associated with mitochondria, smooth endoplasmic reticulum and perinuclear membrane and it plays a central role in apoptosis.

CD3: Reacts with the ϵ -chain of the CD3 part of the TCR/CD3 complex. The antibody is a pan-T reagent for the detection of normal and neoplastic T cells. CD3 is expressed both intracellularly (cortical thymocytes) and extracellularly (medullary thymocytes).

CD22: Reacts with CD22 that appears in the cytoplasm of late pro and early pre-B cells and on the surface of mature B lymphocyte. Anti-CD22 is also a pan-B reagent that enables detection of normal and neoplastic B cells in peripheral blood.

CD68: Reacts with an intracellular lysosomal membrane protein expressed by human monocytes, macrophages and myeloid cells. The antibody is of value for the immunophenotyping of neoplasms of myeloid origin.

CD79 α cy: Reacts with an intracytoplasmic epitope and labels normal and neoplastic B cells and is thus a useful reagent for the demonstration of B cells.

IgD, IgG and IgM: IgD, IgG, and IgM are expressed intracellularly by pre-B progenitor and pre-B cells, and mature plasma cells. The detection of these markers intracellularly is interesting for the subtyping of B cell lymphoproliferative disorders together with a panel of other antibodies.

ORDERING INFORMATION

Product	Size	Code
IntraStain	100 tests	K2311

Dako's Range of Intracellular Markers for Flow Cytometry

	Clone	APC	FITC	RPE	RPE-CY5	PB	PerCP
Mo a Hu Bromodeoxyuridine	Bu20a		F7210				
Mo a Hu BCL2 Oncoprotein	124		F7053*				
Mo a Hu CD3	UCHT1	C7225	F0818	R0810	C7067	PB982*	PR702
Mo a Hu CD22	4KB128	C7281	F7060	R7061			
Mo a Hu CD68	KP1		F7135				
Mo a Hu CD79 α cy	HIM57	C7252		R7159			
Rb a Hu Kappa Light Chains		C0222	F0434	R0436			
Rb a Hu Lambda Light Chains			F0435	R0437			
Rb a Hu Lysozyme EC 3.2.1.17			F0372				
Mo a Hu Myeloperoxidase	MPO-7	C7246	F0714	R7209			
Mo a Hu Plasma Cell	VS38c		F7149				
Mo a Hu Terminal Deoxynucleotidyl Transferase	HT-6		F7139				
Rb a Hu IgD, Specific for Delta-Chains			F0189	R5112			
Rb a Hu IgG, Specific for Gamma-Chains			F0185				
Rb a Hu IgM, Specific for Mu-Chains			F0058	R5111			
EU regulatory status: CE-IVD			* RUO				

Kappa Light Chains: Anti-kappa light chains react with free kappa chains as well as kappa chains in intact immunoglobulin molecules. Antibodies to kappa light chains are useful for the demonstration of cell surface kappa light chains and, thus, for the identification of monoclonality (clonal excess) in B-cell lymphoproliferative disorders together with a panel of other antibodies.

Lambda Light Chains: Anti-lambda light chains react with free lambda chains as well as lambda chains in intact immunoglobulin molecules. Antibodies to lambda light chains are useful for the demonstration of cell surface lambda light chains and, thus, for the identification of monoclonality (clonal excess) in B-cell lymphoproliferative disorders together with a panel of other antibodies.

Lysozyme: Reacts with the primary and secondary granules of myeloid cells. In flow cytometric immunophenotyping of leukemias, lysozyme is a useful marker for the subclassification of acute myeloid leukemia.

Myeloperoxidase (MPO): Reacts with granula in the cytoplasm of neutrophil granulocytes and with monocytes. It is valuable for phenotyping acute leukemias as it detects myeloperoxidase in the great majority of cases of acute myeloid leukemia.

Plasma Cell: Reacts with an intracellular protein of 63 kDa identical with the rough endoplasmic reticulum-associated protein p63. The antibody labels plasma cells strongly, but frequently also labels melanocytic cells, particularly melanoma cells, and a number of epithelial cells, e.g. in mucous glands and tonsils, and secretory epithelia in breast, thyroid and pancreas, both benign and malignant.

Terminal Deoxynucleotidyl Transferase (TDT): Reacts with the nuclei of normal T and B-lymphocyte precursors and their neoplastic equivalents such as T-cell and pre-B-cell acute lymphoblastic leukemias and lymphomas.



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