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#62714

Human Immune Cell Phenotyping IHC Antibody Sampler Kit



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New 09/19

For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity	Isotype/Source
CD3 ϵ (D7A6E™) XP® Rabbit mAb	85061	20 μ l	Rabbit IgG
CD8 α (C8/144B) Mouse mAb (IHC Specific)	70306	20 μ l	Mouse IgG1
FoxP3 (D2W8E™) Rabbit mAb (IHC Specific)	98377	20 μ l	Rabbit IgG
CD11b/ITGAM (D6X1N) Rabbit mAb	49420	20 μ l	Rabbit IgG
CD68 (D4B9C) XP® Rabbit mAb	76437	20 μ l	Rabbit IgG
CD11c (D3V1E) XP® Rabbit mAb	45581	20 μ l	Rabbit IgG
CD19 (D4V4B) XP® Rabbit mAb	90176	20 μ l	Rabbit IgG
Pan-Keratin (C11) Mouse mAb	4545	20 μ l	Mouse IgG1
NCAM1 (CD56) (E7X9M) XP® Rabbit mAb	99746	20 μ l	Rabbit IgG

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions, and additional application protocols.

Description: The Human Immune Cell Phenotyping IHC Antibody Sampler Kit provides an economical means of detecting the accumulation of immune cell types in formalin-fixed, paraffin-embedded tissue samples.

Background: Cluster of Differentiation 3 (CD3) is a multiunit protein complex expressed on the surface of T cells that directly associates with the T cell receptor (TCR). CD3 is composed of four polypeptides: ζ , γ , ϵ and δ . Engagement of the TCR complex with antigens presented in Major Histocompatibility Complexes (MHC) induces tyrosine phosphorylation in the immunoreceptor tyrosine-based activation motif (ITAM) of CD3 proteins. CD3 phosphorylation is required for downstream signaling through ZAP-70 and p85 subunit of PI-3 kinase, leading to T cell activation, proliferation, and effector functions (1). CD8 is a transmembrane glycoprotein expressed primarily on cytotoxic T cells, but has also been described on a subset of dendritic cells in mice (2,3). On T cells, CD8 is a co-receptor for the TCR, and these two distinct structures are required to recognize antigen bound to MHC Class I. CD8 ensures specificity of the TCR-antigen interaction, prolongs the contact between the T cell and the antigen presenting cell, and recruits the tyrosine kinase Lck, which is essential for T cell activation (2). Forkhead box P3 (FoxP3) is crucial for the development of T cells with immunosuppressive regulatory properties and is a well-established marker for CD4⁺ T regulatory cells (Tregs) (4). Cluster of differentiation molecule 11b (CD11b)/Integrin alpha M (ITGAM) is a transmembrane protein forming heterodimers that are composed of α and β subunits (5). CD11b is expressed by, and commonly used as a marker for, myeloid lineage cells, including neutrophils, monocytes, macrophages, and microglia (6). CD68 (macrosialin) is a heavily glycosylated transmembrane protein that is expressed by and commonly used as a marker for monocytes and macrophages (7,8). It is found on the plasma membrane, as well as endosomal and lysosomal membranes (7-9). CD11c (integrin α X, ITGAX) is a transmembrane glycoprotein highly expressed by

dendritic cells, and has also been observed on activated NK cells, subsets of B and T cells, monocytes, granulocytes, and some B cell malignancies including hairy cell leukemia (10,11). CD19 is a co-receptor expressed on B cells that amplifies the signaling cascade initiated by the B cell receptor (BCR) to induce activation. It is a biomarker of B lymphocyte development, lymphoma diagnosis, and can be utilized as a target for leukemia immunotherapies (12,13). NCAM (neural cell adhesion molecule, CD56) is an adhesion glycoprotein with five extracellular immunoglobulin-like domains followed by two fibronectin type III repeats (14). CD56 and CD16 are commonly used to identify NK cells although some cells with the T cell markers CD3 and CD4 also express CD56 (15). Keratins (cytokeratins) are intermediate filament proteins that are mainly expressed in epithelial cells. Keratin heterodimers composed of an acidic keratin (or type I keratin, keratins 9 to 23) and a basic keratin (or type II keratin, keratins 1 to 8) assemble to form filaments (16,17). Keratin isoforms demonstrate tissue- and differentiation-specific profiles that make them useful as research biomarkers (16).

Specificity/Sensitivity: Each antibody included in the Human Immune Cell Phenotyping IHC Antibody Sampler Kit recognizes endogenous levels of its target human protein. CD11c (D3V1E) XP® Rabbit mAb does not cross-react with CD11b. Pan-Keratin (C11) Mouse mAb detects endogenous levels of total keratin 4, 5, 6, 8, 10, 13, and 18. Pan-Keratin (C11) Mouse mAb does not cross-react with other keratins.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues surrounding Glu178 of human CD3 ϵ protein, Leu427 of human CD19 protein, Pro799 of human NCAM1/CD56 protein, near the carboxy terminus of human CD8 protein, or with recombinant protein specific to human FoxP3, human CD68, human CD11c, or the amino terminus of human CD11b/ITGAM protein. Pan-Keratin (C11) Mouse mAb (isotype: IgG1) is produced by immunizing a BALB/c mouse with a cytoskeleton preparation from A431 cells.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Please visit www.cellsignal.com for validation data and a complete listing of recommended companion products.

Background References:

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species enclosed in parentheses are predicted to react based on 100% homology.**