Store at -20°C

Human Reactive M1 vs M2 Macrophage IHC Antibody Sampler Kit

#84223

Support: +1-978-867-2388 (U.S.)
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For Research Use Only. Not For Use In Diagnostic Procedures.

Product Includes	Product #	Quantity	Isotype/Source
CD68 (D4B9C) XP® Rabbit mAb	76437	20 µl	Rabbit IgG
CD163 (D6U1J) Rabbit mAb	93498	20 µl	Rabbit IgG
CD206/MRC1 (E2L9N) Rabbit mAb	91992	20 µl	Rabbit IgG
CD11c (D3V1E) XP® Rabbit mAb	45581	20 µl	Rabbit IgG
CD86 (E2G8P) Rabbit mAb	91882	20 µl	Rabbit IgG
HLA-DRA (E9R2Q) XP® Rabbit mAb	97971	20 µl	Rabbit IgG
Phospho-Stat1 (Tyr701) (58D6) Rabbit mAb	9167	20 µl	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl	Goat

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

Description: The Human Reactive M1 vs M2 Macrophage IHC Antibody Sampler Kit provides an economical means of characterizing the extent of M1 and M2 macrophages in formalin-fixed, paraffin-embedded tissue samples.

Background: Macrophages are myeloid cells of the innate immune system that are found in all human tissues in the body and exhibit anatomical and functional diversity. These heterogenous cells are derived from monocyte precursors in the blood that infiltrate into the tissues and differentiate in the presence of cytokines and growth factors. A spectrum of different macrophage phenotypes, or polarizations, have been described based on their secretory profiles, gene expression, and functions. Macrophages have great plasticity and can switch from one phenotype to another under different conditions. At the opposite extremes of this spectrum are so called M1, or classically activated phenotype, and M2 or alternatively activated phenotype. M1 macrophages are generally inflammatory and anti-tumor, while M2 macrophages, commonly referred to as tumor-associated macrophages (TAMs), are generally anti-inflammatory and pro-tumor. Relative contents of M1 and M2 macrophages in the tumor microenvironment may have prognostic values. Modulating macrophage polarization is actively pursued as a therapeutic intervention for many different diseases (1-6).

In humans, CD68 is considered a general marker for macrophages. CD11c, CD86, HLA-DRA, phospho-STAT1 (Tyr701), and others have been used as markers for M1 macrophages, while CD163, CD206, and others have been used as markers for M2 macrophages (7-10).

Specificity/Sensitivity: Each antibody in the Human Reactive M1 vs M2 Macrophage IHC Antibody Sampler Kit detects endogenous levels of its target human protein. CD11c (D3V1E) XP® Rabbit mAb does not cross-react with CD11b. Phospho-Stat1 (Tyr701) (58D6) Rabbit mAb detects endogenous levels of Stat1 only when phosphorylated at tyrosine 701. The antibody detects phosphorylated tyrosine 701 of p91 Stat1 and also the p84 splice variant. It does not cross-react with the corresponding phospho-tyrosines of other Stat proteins.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with a recombinant protein specific to human CD68, CD163, CD206/MRC1, and CD11c, or with synthetic peptides corresponding to residues surrounding Val153 of human HLA-DRA protein and Pro239 of human CD86 protein, or with synthetic phosphopeptides corresponding to residues surrounding Tyr701 of human Stat1 protein.

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

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

Background References:

(1) Wynn, T.A. et al. (2013) *Nature* 496, 445-55.
(2) Biswas, S.K. and Mantovani, A. (2010) *Nat Immunol* 11, 889-96.
(3) Mills, C.D. (2012) *Crit Rev Immunol* 32, 463-88.
(4) Wang, N. et al. (2014) *Front Immunol* 5, 614.
(5) Orecchioni, M. et al. (2019) *Front Immunol* 10, 1084.
(6) Yunna, C. et al. (2020) *Eur J Pharmacol* 877, 173090.
(7) Shu, Q.H. et al. (2016) *J Cell Mol Med* 20, 1024-35.
(8) Dong, P. et al. (2016) *Int J Mol Sci* 17, 320.
(9) Lin, M.W. et al. (2016) *Ann Surg Oncol* 23, 3071-81.
(10) Rakaee, M. et al. (2019) *Neoplasia* 21, 282-293.

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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.