Store at -20°C

Mouse Reactive M1 vs M2 Macrophage IHC Antibody Sampler Kit

#97624

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Isotype/Source
F4/80 (D2S9R) XP® Rabbit mAb	70076	20 µl	Rabbit IgG
CD68 (E3O7V) Rabbit mAb	97778	20 µl	Rabbit IgG
CD86 (E5W6H) Rabbit mAb	19589	20 µl	Rabbit IgG
CD11c (D1V9Y) Rabbit mAb	97585	20 µl	Rabbit IgG
CD206/MRC1 (E6T5J) XP® Rabbit mAb	24595	20 µl	Rabbit IgG
Arginase-1 (D4E3M™) XP® Rabbit mAb	93668	20 µl	Rabbit IgG
Iba1/AIF-1 (E4O4W) XP® Rabbit mAb	17198	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 Mouse 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 mice, F4/80, CD68, and Iba1/AIF-1 are considered general markers for macrophages. CD86, CD11c, and others have been used as markers for M1 macrophages, while CD206, Arginase-1, and others have been used as markers for M2 macrophages (7-10).

Specificity/Sensitivity: Each antibody in the Mouse Reactive M1 vs M2 Macrophage IHC Antibody Sampler Kit detects endogenous levels of its target human protein. Arginase-1 (D4E3M™) XP® Rabbit mAb does not cross-react with arginase-2. CD206/MRC1 (E6T5J) XP® Rabbit mAb recognizes mouse CD206/MRC1 protein and is also reactive with human CD206/MRC1; however, this antibody is not suggested for immunohistochemical analysis of human tissues. Instead, CD206/MRC1 (E2L9N) Rabbit mAb #91992 is recommended for IHC analysis of human tissue samples. Staining of uncertain specificity in mouse endometrial epithelium has been observed by immunohistochemistry using CD68 (E3O7V) Rabbit mAb.

Source/Purification: Monoclonal antibody is produced by immunizing animals with synthetic peptides corresponding to residues near the carboxy terminus of mouse CD206/MRC1 protein and surrounding Ala1153 of mouse CD11c protein, Val47 of human arginase-1 protein, and Ala139 of human Iba1/AIF-1 protein, or with recombinant proteins specific to mouse F4/80, CD86, and CD68.

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) Kim, H.M. et al. (2017) *PLoS One* 12, e0179204.
(8) Gensel, J.C. et al. (2017) *Sci Rep* 7, 40144.
(9) Li, X. et al. (2018) *Front Pharmacol* 9, 72.
(10) Yang, J. et al. (2018) *Cereb Cortex* 28, 2622-2635.

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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.