Human MIF Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 932606

Catalog Number: IC2891U

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MIF in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 932606
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human MIF Met1-Phe114 Accession # P14174
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	0.25-1 µg/10^6 cells	Human peripheral blood mononuclear cell (PBMCs) treated with LPS overnight and monensin for 2 hours were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005)

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

MIF (or macrophage Migration Inhibitory Factor) was the first lymphokine/cytokine to be recognized in the pregenomics era (1, 2). Regardless, it is one of the least understood of all inflammatory mediators (1, 3). Human MIF is a 12.5 kDa, 115 amino acid (aa) nonglycosylated polypeptide that is synthesized without a signal sequence (4-7). Secretion occurs nonclassically via an ABCA1 transporter (8). The initiating Met is removed, leaving Pro as the first amino acid. The molecule consists of two α-helices and six β-strands, four of which form a β-sheet. The two remaining β-strands interact with other MIF molecules, creating a trimer (2, 9, 10). Structure-function studies suggest MIF is bifunctional with segregated topology. The N- and C-termini mediate enzyme activity (in theory). Phenylpyruvate tautomerase activity (enol-to-keto) has been demonstrated and is dependent upon Pro at position #1 (11). Amino acids 50-65 have also been suggested to contain thiol-protein oxidoreductase activity (12). MIF has proinflammatory cytokine activity centered around aa's 49-65. On fibroblasts, MIF induces, IL-1, IL-8, and MMP expression; on macrophages, MIF stimulates NO production and TNF-α release following IFN-γ activation (13, 14). MIF apparently acts through CD74 and CD44, likely in some form of trimeric interaction (15, 16). Human MIF is active on mouse cells (14). Human MIF is 90%, 94%, 95%, and 90% aa identical to mouse, bovine, porcine, and rat MIF, respectively.

References:

1. Norand, E.F. and M. Leech (2005) Front. Biosci. **10**:12.
2. Donn, R.P. and D.W. Ray (2004) J. Endocrinol. **182**:1.
3. Calandra, T. and T. Roger (2003) Nat. Rev. Immunol. **3**:791.
4. Kozak, C.A. *et al.* (1995) Genomics **27**:405.
5. Weiser, W.Y. *et al.* (1989) Proc. Natl. Acad. Sci. USA **86**:7522.
6. Paralkar, V. and G. Wistow (1994) Genomics **19**:48.
7. Wistow, G.J. *et al.* (1993) Proc. Natl. Acad. Sci. USA **90**:1272.
8. Flieger, O. *et al.* (2003) FEBS Lett. **551**:78.
9. Philo, J.S. *et al.* (2004) Biophys. Chem. **108**:77.
10. Sun, H-W. *et al.* (1996) Protein Eng. **9**:631.
11. Stamps, S.L. *et. al.* (2000) Biochemistry **39**:9671.
12. Nguyen, M.T. *et al.* (2003) J. Biol. Chem. **278**:33654.
13. Sato, A. *et al.* (2003) Dev. Comp. Immunol. 27:401.
14. Bernhagen, J. *et al.* (1994) Biochemistry 33:14144.
15. Leng, L. *et al.* (2003) J. Exp. Med. **197**:1467.
16. Meyer-Siegler, K.L. and P.L. Vera (2005) J. Urol. **173**:615.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human MIF Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 932606

Catalog Number: IC2891U

100 µg

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449