Mouse CD74 Antibody

Monoclonal Rat IgG_1 Clone # 829706

Catalog Number: MAB7478

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD74 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human CD74 is observed.
Source	Monoclonal Rat IgG_1 Clone # 829706
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse CD74 Gln56-Cys215 Accession # P04441
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

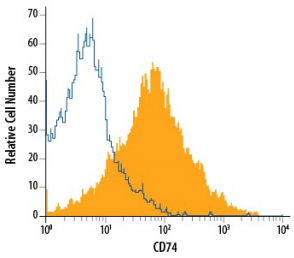
APPLICATIONS

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
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of CD74 in A20 Mouse Cell Line by Flow Cytometry. A20 mouse B cell lymphoma cell line was stained with Rat Anti-Mouse CD74 Monoclonal Antibody (Catalog # MAB7478, filled histogram) or isotype control antibody (Catalog # MAB005, open histogram), followed by Allophycocyanin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0113).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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

Mouse CD74 Antibody

Monoclonal Rat IgG_1 Clone # 829706

Catalog Number: MAB7478

BACKGROUND

CD74, also known as Invariant chain (Ii) and p33, is a type 2 transmembrane glycoprotein that plays an important role in adaptive immunity, inflammation, and cancer (1). Mature mouse CD74 consists of a 29 amino acid (aa) cytoplasmic domain, a 29 aa transmembrane segment, and a 224 aa extracellular domain (ECD) that contains one thyroglobulin type 1 domain (2). Alternative splicing generates a short isoform that lacks the thyroglobulin domain (2). Within the ECD, mouse CD74 shares 75% and 88% aa sequence identity with human and rat CD74, respectively. CD74 functions as a chaperone for MHC class II molecules on antigen presenting cells and undergoes progressive proteolysis during class II trafficking and antigenic peptide loading (3). Full length CD74 assembles into trimers which then associate with class II molecules in nonameric complexes on the cell surface (4, 5). CD74 also associates with CD44 and binds with high affinity to the cytokine MIF, leading to inflammatory leukocyte responses, protection from tissue fibrosis, B cell proliferative and survival signaling, and the up-regulation of angiogenic factors in endometrial stromal cells (6-11). MIF binding notably induces the proteolytic cleavage of the CD74 intracellular domain which then promotes B cell differentiation (10). CD74 is upregulated on non-immune cells at sites of inflammation including amyloid beta plaques and atherosclerotic plaques (12, 13). It is also upregulated in a variety of cancers and enhances tumorigenicity, tumor angiogenesis, and metastasis (1, 14).

References:

1. Beswick, E.J. and V.E. Reyes (2009) World J. Gastroenterol. **15**:2855.
2. Koch, N. *et al.* (1987) EMBO J. **6**:1677.
3. Riberdy, J.M. *et al.* (1992) Nature **360**:474.
4. Koch, N. *et al.* (1991) J. Immunol. **147**:2643.
5. Roche, P.A. *et al.* (1991) Nature **354**:392.
6. Leng, L. *et al.* (2003) J. Exp. Med. **197**:1467.
7. Takahashi, K. *et al.* (2009) Respir. Res. **10**:33.
8. Heinrichs, D. *et al.* (2011) Proc. Natl. Acad. Sci. USA **104**:17444.
9. Shi, X. *et al.* (2006) Immunity **25**:595.
10. Gore, Y. *et al.* (2008) J. Biol. Chem. **283**:2784.
11. Veillat, V. *et al.* (2010) J. Clin. Endocrinol. Metab. **95**:E403.
12. Bryan, K.J. *et al.* (2008) Mol. Neurodegen. **3**:13.
13. Martin-Ventura, J.L. *et al.* (2009) Cardiovasc. Res. **83**:586.
14. Liu, Y.-H. *et al.* (2008) J. Immunol. **181**:6584.

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