

# Monoclonal Anti-mouse 5'-Nucleotidase/CD73-Fluorescein

Catalog Number: FAB4488F

Lot Number: AASK01

100 Tests

## Reagents Provided

**Carboxyfluorescein (CFS)-conjugated rat monoclonal anti-mouse 5'-Nucleotidase/CD73:** Supplied as 25 µg of antibody in 1 mL saline containing up to 0.5% BSA and 0.1% sodium azide.

**Clone #:** 496406

**Isotype:** rat IgG<sub>2A</sub>

## Reagents Not Provided

- PBS (Dulbecco's PBS)
- BSA

## Storage

Reagents are stable for **twelve months** from date of receipt when stored in the dark at 2° - 8° C.

## Intended Use

Designed to quantitatively determine the percentage of cells bearing 5'-Nucleotidase/CD73 within a population and qualitatively determine the density of 5'-Nucleotidase/CD73 on cell surfaces by flow cytometry.

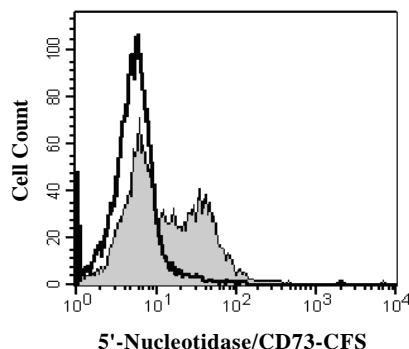
## Principle of the Test

Washed cells are incubated with the fluorescein-labeled monoclonal antibody, which binds to cells expressing 5'-Nucleotidase/CD73. Unbound fluorescein-conjugated antibody is then washed from the cells. Cells expressing 5'-Nucleotidase/CD73 are fluorescently stained, with the intensity of staining directly proportional to the density of expression of 5'-Nucleotidase/CD73. Cell surface expression of 5'-Nucleotidase/CD73 is determined by flow cytometry using 488 nm wavelength laser excitation and monitoring emitted fluorescence with a detector optimized to collect peak emissions at 515 - 545 nm.

## Reagent Preparation

### Fluorescein-conjugated rat anti-mouse

**5'-Nucleotidase/CD73:** Use as is; no preparation necessary.



CD4+ mouse splenocytes were stained with CFS-conjugated anti-mouse 5'-Nucleotidase/CD73 (Catalog # FAB4488F, filled histogram) or isotype control (Catalog # IC003F, open histogram).

## Sample Preparation

**Peripheral blood cells:** Whole blood should be collected in evacuated tubes containing EDTA or heparin as the anticoagulant. Contaminating serum components should be removed by washing the cells three times in an isotonic phosphate buffer (supplemented with 0.5% BSA) followed by centrifugation at 500 x g for 5 minutes. 50 µL of packed cells should then be transferred to a 5 mL tube for staining with the monoclonal antibody. Whole blood will require lysis of RBC following the staining procedure.

**Cell Cultures:** Continuous cell lines or activated cell cultures should be centrifuged at 500 x g for 5 minutes and washed three times in an isotonic PBS buffer (supplemented with 0.5% BSA) to remove any residual growth factors that may be present in the culture medium. Cells should then be resuspended in the same buffer to a final concentration of 4 x 10<sup>6</sup> cells/mL and 25 µL of cells (1 x 10<sup>5</sup>) transferred to a 5 mL tube for staining.

Note: Adherent cell lines may require pretreatment with 0.5 mM EDTA to facilitate removal from their substrates. Cells that require trypsinization to enable removal from their substrates should be further incubated in medium for 6 - 10 hours on a rocker platform to enable regeneration of the receptors. The use of the rocker platform will prevent reattachment to the substrate.

## Sample Staining

- 1) Cells should be Fc-blocked by treatment with 1 µg of mouse IgG/10<sup>5</sup> cells for 15 minutes at room temperature prior to staining. Do not wash excess blocking IgG from this reaction.
- 2) Transfer 25 µL of the Fc-blocked cells (1 x 10<sup>5</sup> cells) or 50 µL of packed whole blood to a 5 mL tube.
- 3) Add 10 µL of CFS-conjugated 5'-Nucleotidase/CD73 reagent.
- 4) Incubate for 30 - 45 minutes at 2° - 8° C.
- 5) Following this incubation, remove unreacted 5'-Nucleotidase/CD73 reagent by washing the cells twice in 4 mL of the same PBS buffer (*note: whole blood will require an RBC lysis step at this point using any commercially available lysing reagent, such as R&D Systems Whole Blood Lysing Kit, Catalog # WL1000*).
- 6) Finally, resuspend the cells in 200 - 400 µL of PBS buffer for analysis by flow cytometry.
- 7) As a control for this analysis, cells in a separate tube should be treated with CFS-labeled rat IgG<sub>2A</sub> antibody.

This procedure may need modification, depending upon final utilization.

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

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## Background Information

CD73, an ecto-5'-nucleotidase, is an ectoenzyme that is attached to the cell membrane by a glycosyl phosphatidylinositol anchor.<sup>1,2</sup> Most cell types express this enzyme. The 5'-nucleotidase activity of CD73 converts extracellular nucleoside-5'-monophosphates to nucleosides. CD73 is one of several enzymes responsible for the production of extracellular adenosine, a signaling molecule that is involved in responses to inflammation and tissue injury.<sup>3</sup>

## References

1. Resta, R. *et al.* (1993) *Gene* **133**:171 - 177.
2. Resta, R. *et al.* (1998) *Immunol. Rev.* **161**:95 - 109.
3. Pilcher, M. *et al.* (2003) *J. Biol. Chem.* **278**:13468 - 13479.

**Warning:** Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.