Leinco Technologies, Inc.
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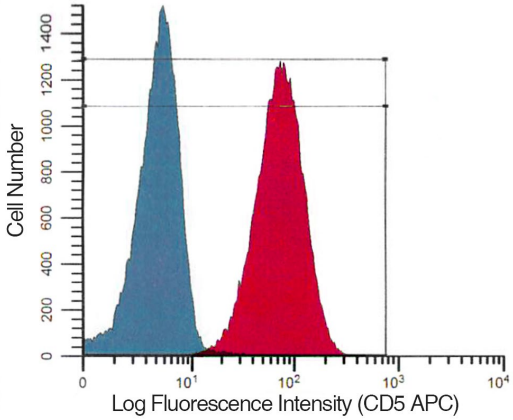
Human RealStain Fc Block Solution

Cytrometry Workflow Solutions

Product Information

Product No.: R5151
RRID: AB_2894293
Storage: Sterile 2-8°C



Human RealStain Fc Block (R5151) treated (blue) or untreated (red) U937 cells stained with an Anti-CD5 APC mAb.

Table 1. General characteristics of human FcγR

Fc IgG Receptors (CD)	Distribution	Affinity	IgG Isotype Specificity	
			Human	Mouse
FcγRI (CD64)	Monocytes, Macrophages, Induced on PMN by IFNγ, G-CSF	High 10^8 - 10^9 M^{-1}	3>1>4>>>2	2a=3>>>1,2b
FcγRII (CD32)	Monocytes, Macrophages, PMN, Basophils, Eosinophils, Langerhans cells, B cells, platelets, endothelial cells(?)	Low $< 10^7$ M^{-1}	3>1=2>>>4	1>2b>>>2a,3
FcγRIII (CD16) IIIA	Macrophages, LGL/NK cells; Sub-population of T cells and Monocytes; Induced on Monocytes by TGFβ	Medium $\cong 3x10^7$ M^{-1}	1=3>>>2,4	3>2a>2b>>>1
IIIB	Neutrophils; Induced on Eosinophils by IFNγ	Low $<10^7$ M^{-1}		

Product Description

Background:

Many cell types such as monocytes, granulocytes, B cells and dendritic cells express Fc receptors (FcRs) on their surfaces (Table 1). FcR-mediated IgFc binding can negatively affect the results of immunofluorescent staining by reducing the separation of negative and positive cell populations during flow cytometric analysis. In immunohistochemistry staining, the Fc interactions with FcR can be the cause of high fluorescent background levels. The advantage of using a Fc blocking reagent which has been investigated and shown to be effective in blocking Fc-FcR interactions is higher resolution and therefore, more accurate results. Isotype controls were widely accepted previously as a necessary and useful part of flow cytometry experiments. However, isotype controls have lost scientific consensus for use in flow cytometry and have become less reliable due to their inability to mitigate every concern associated with undesirable antibody behavior. Fc Blocking reagents have also shown higher efficacy in background reduction compared to serum because of the lot to lot consistency.

RealStain, Leinco's purified Fc Block solution was carefully engineered with the optimal ratio of non-specific murine IgG isotype control molecules to efficiently and completely block human Fc receptors during cell staining thus helping prevent false negative or false positive results. RealStain Fc block solution can be used to avoid undesired non-specific staining of primary antibodies. Human RealStain Fc Block IS NOT compatible with using Anti-murine secondary conjugates because it contains murine isotype control antibodies.

RealStain was tested on U937 cells which are know to have FcγRI (CD64), FcγRII (CD32), and FcγRIII (CD16) receptors. To examine the ability RealStain to block these Fc receptors, an anti-CD5 APC antibody, which would not bind specifically through its Fab to U937 cells, was used.

Human RealStain Fc Block is compatible with flow cytometric staining with anti-human CD16 (clone 3G8) and anti-human CD64 (clone 10.1) antibodies.

Storage and Stability
Store between 2-8°C.

Applications
Applications and Recommended Usage (Quality Tested By Leinco):
FC
Other Applications Reported in Literature:
FC

Country of Origin
USA