Elabscience®

Flow Cytometry Related Reagents

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A Reliable Research Partner in Life Science and Medicine

Elabscience Bionovation Inc.

Elabscience® Flow Cytometry Related Reagents Introduction

Elabscience® has a wide range of indicators for flow cytometry (FCM) antibodies to meet the diverse needs of customers in FCM experiment. In addition to antibodies, Elabscience® offers a range of related reagents, including T cell activation and expansion beads, red blood cell lysis reagents, cell separation reagent, FcR blocking reagents, cytokine stimulation and protein transport inhibitor, cell fixation/permeabilization reagents, nuclear staining dyes, wash and dilute buffer etc., to provide a comprehensive solution for your FCM experiments.

T Cell Activation and Expansion Bead

After specific stimulation and differentiation, T cells will rapidly proliferate, forming a large number of effector T cells and memory T cells. This bead can provide the main and synergistic stimulation signals required for T cell activation and expansion, thereby inducing the activation and proliferation of T cells.

Product Name	Cat. No.	Size	Application
Human CD3/CD28 T Cell Activation Beads	MIH001A	0.2 mL/1 mL/1 mL×5	Activation and expansion of sorted T cells or T cells in PBMCs
Mouse CD3/CD28 T Cell Activation Beads	MIM001A	0.2 mL/1 mL/1 mL×5	Activation and expansion of sorted T cells or T cells from mouse spleen

Red Blood Cell Lysis Reagent

It is necessary to process blood samples by cracking red blood cells before FCM experiments. Experimenters can choose red blood cell lysate with or without fixatives according to their own experimental conditions.

Product Name	Cat. No.	Size	Application
10×ACK Lysis Buffer	E-CK-A105	100/200/500 mL	Red Blood Cell Lysis
10× RBC Lysis/Fixation Solution	E-CK-A106	50/100/500 Tests	Red Blood Cell Lysis

Cell Separation Reagent

Before the experiment, cell separation from the sample is required to facilitate subsequent flow cytometry processing and cellular data analysis.

Product Name	Cat. No.	Size	Application
Human PBMC Separation Solution(P 1.077)	E-CK-A103	200 mL	Human PBMC Separation

FcR Blocking Reagent

The Fc region of antibodies can non-specifically bind to Fc receptors on the cell surface. Fc receptor-blocking antibodies can be used to reduce the background caused by non-specific bindings to Fc receptors.

Product Name	Cat. No.	Size	Application
Purified Anti-Mouse CD16/32 Antibody	E-AB-F0997A	25/100 μg	Mouse Sample Blocking
Purified Anti-Human CD16 Antibody	E-AB-F1236A	25/100 μg	Human Sample Blocking

Cytokine Stimulation Reagents and Protein Transport Inhibitor

In order to detect cytokines, it may be necessary to apply appropriate stimulants to stimulate cells to produce cytokines, and to add protein transport inhibitors to block transporting secreted proteins to the outside of cells. After the stimulation and transport inhibition, the cells can be fixed to permeabilize the membrane and incubate with FCM antibodies.

Product Name	Cat. No.	Size	Application
Cell Stimulation and Protein Transport Inhibitor Kit	E-CK-A091	50/100/200/500 Assays	Stimulation/Transport Inhibitor
Cell Stimulation MIX Kit	E-CK-A019	50/200/500 Assays	Cell Stimulation
Protein Transport Inhibitor MIX	E-CK-A013	50/200/500 Tests	Protein Transport Inhibitor

Cell Fixation/Permeabilization Reagent

When detecting indicators within the cytoplasm or nucleus, it is necessary to fix the cells first, then use a membrane permeabilization reagent to disrupt the cell surface membrane/nuclear membrane. Only after fixation and permeabilization can FCM antibodies access their target proteins within the cell or nucleus.

Product Name	Cat. No.	Size	Application
Foxp3/Transcription Factor Staining Kit	E-CK-A108	20 Assays	Fixation/Permeabilization
Intracellular Fixation/Permeabilization Buffer Kit	E-CK-A109	50/100/500 Assays	Intracellular Fixation/ Permeabilization

Wash and Dilute Buffer

Buffers are optimized to protect cells, reduce cell damage and nonspecific binding during experiment.

Product Name	Cat. No.	Size	Application
Cell Staining Buffer	E-CK-A107	100/200/500 mL	Dilution and Wash

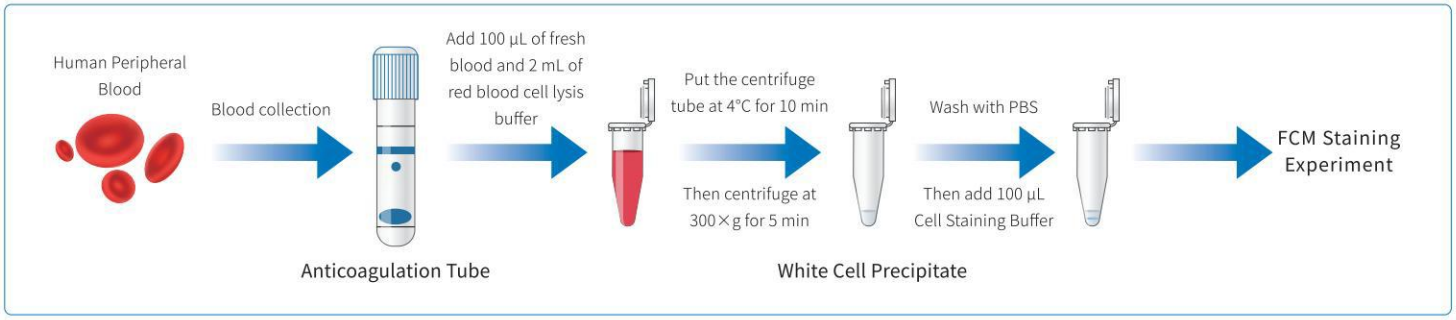
Nuclear Staining Dye

During the late stages of apoptosis or after cell death, the integrity of the cell membrane is compromised. Large molecular nuclear dyes can penetrate the cell membrane and stain the nucleus, which can be used to distinguish normal cells from the late stage apoptotic cells and dead cells.

Product Name	Cat. No.	Size	Application
PI Reagent	E-CK-A161	50/100/200/500 Tests	Nuclear Staining
7-AAD Reagent	E-CK-A162	50/100/200/500 Tests	Nuclear Staining
DAPI Reagent	E-CK-A163	50/100/200/500 Tests	Nuclear Staining

Elabscience® Flow Cytometry Related Reagents Experimental Application

Human Peripheral Blood Single Cell Suspension Preparation



Cautions

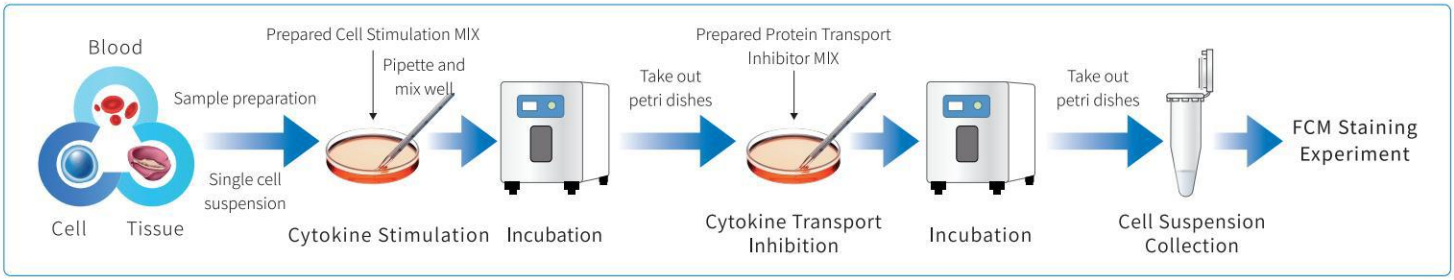
◎ There are two types of anticoagulant tubes for blood collection: heparin and EDTA. If red blood cells are directly lysed for surface marker staining experiments, both types of anticoagulant tubes can be used; however, if cytokine detection experiment is required after blood collection, only heparin anticoagulation tubes should be used.

◎ It is recommended to use 10× ACK Lysis Buffer (E-CK-A105) for this buffer without fixative reagent.

◎ The 10× ACK Lysis Buffer should be diluted into 1× with pure water before experiment. It is recommended to store it at 4°C for same-day use.

◎ Centrifuge immediately after lysis to prevent cell damage due to protracted period.

Cell Intracellular Cytokine Stimulation and Transport Inhibition



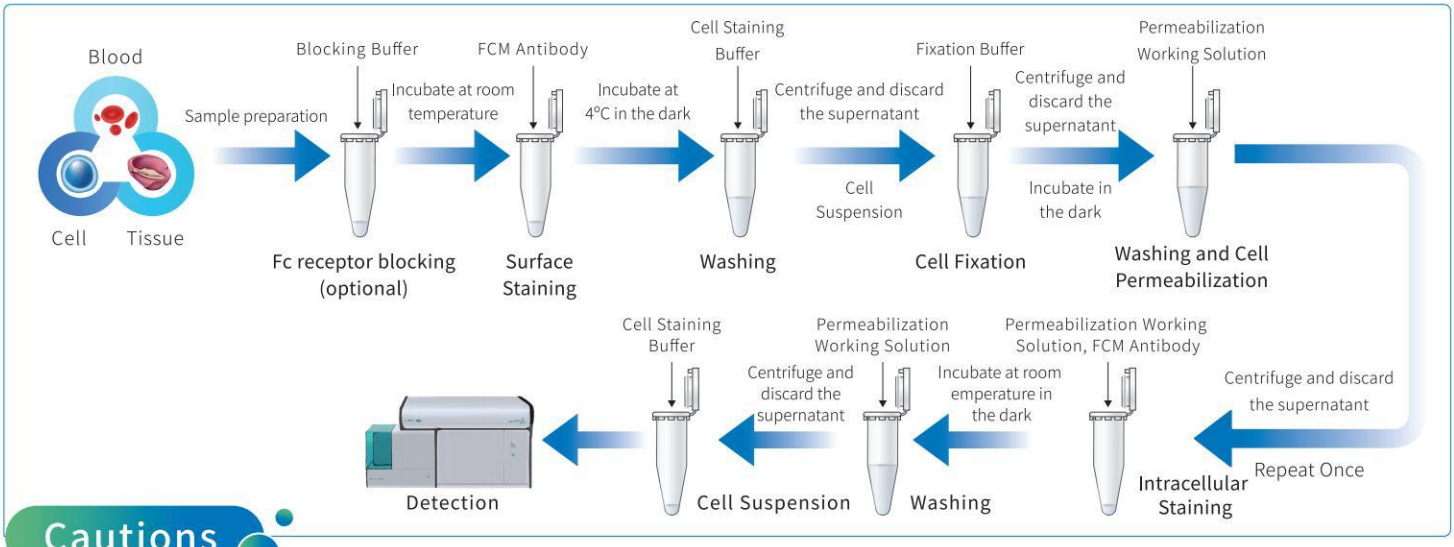
Cautions

◎ Due to the effect of Brephedectin A in Protein Transport Inhibitor MIX on CD69, it is recommended not to add Protein Transport Inhibitor MIX in the detection of CD69. However, this operation may lead to the secretion of intracellular factors outside the cell without detection.

◎ When the sample was prepared into single-cell suspension, the maximum density should not exceed 2×10^6 cells/mL, which would affect the activation efficiency of cells. For the freshly prepared primary cells, confirmation of observed cell state is recommended before performing induction and detection.

Scan code to watch the video ▼

Cell Intracellular Antigen Staining



Cautions

◎ For some samples, it is necessary to lyse red blood cells before extracting cells. Red blood cell lysis can be performed by using red blood cell lysis buffer (E-CK-A105 or E-CK-A106).

◎ Blocking Fc receptors can reduce non-specific staining during the staining process.

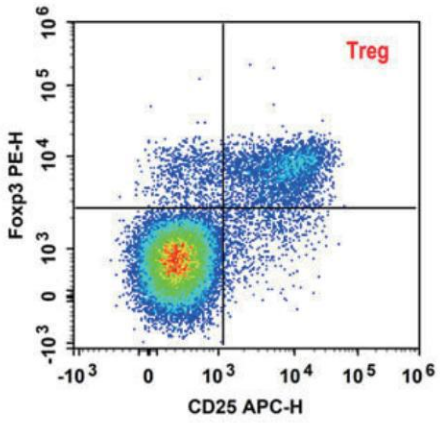
① For mouse samples, purified CD16/CD32 monoclonal antibody can bind to FcγRIII/ II , blocking non-specific staining and reducing the background fluorochrome of negative cells to the level of unlabeled cells.

② For rat samples, blocking can be achieved using an excess of purified Ig from the same species and isotype as the staining antibody, serum from the same species or a commercial Fc receptor blocking agent to block. This helps minimize background staining.

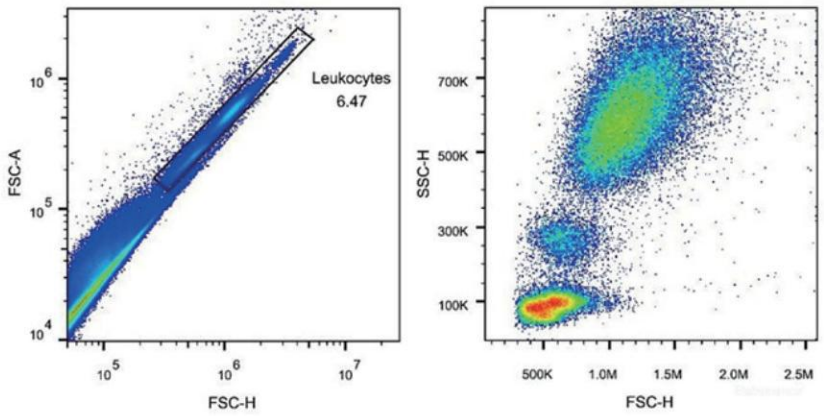
③ For human samples, purified CD16 monoclonal antibody can be used as a blocking reagent for Fc receptors.

Scan code to watch the video ▼

FCM Related Reagent Experiment Results (Partial)



Treg cells were treated with Foxp3/ Transcription Factor Staining Kit (E-CK-A108) and Foxp3 staining



Cleavage effect of 10× RBC Lysis/Fixation Solution (E-CK-A106)

Featured Citations

Title	Journal	Cited Product (Cat. No.)
Intercellular Nanotube-mediated Mitochondrial Transfer Enhances T Cell Metabolic Fitness and Antitumor Efficacy	*Cell*	10×ACK Lysis Buffer（E-CK-A105）
Nanomedicines Promote Cartilage Regeneration in Osteoarthritis by Synergistically Enhancing Chondrogenesis of Mesenchymal Stem Cells and Regulating Inflammatory Environment	*ACS Nano*	Purified Anti-Mouse CD16/32 Antibody [2.4G2]（E-AB-F0997A）
Self-sacrificed Construction of Versatile Nanoadjuvant for Synergistically Enhanced Immunogenic Cell Death and Improved Anti-tumor Immunity	*Chemical Engineering Journal*	Foxp3/Transcription Factor Staining Kit (E-CK-A108)
Dual-Action Psoriasis Therapy: Antiproliferative and Immunomodulatory Effects via Self-Locking Microneedles	*Advanced Science*	Intracellular Fixation/Permeabilization Buffer Kit（E-CK-A109）
Repair Spinal Cord Injury with A Versatile Anti-oxidant and Neural Regenerative Nanoplatform	*Journal of Nanobiotechnology*	Cell Staining Buffer（E-CK-A107）

For more FCM related reagent citation, please visit www. elabscience.com.

Elabscience Bionovation Inc.

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