

# Human CD3/CD28 T cell Activation Beads Kit

Catalog Number:KMS310

## Description

T lymphocytes are activated through MHC class II molecules on antigen-presenting cells (APC). After activation, T cells expand rapidly and secrete various cytokines. The Human CD3/CD28 T cell Activation Beads Kit is designed to activate and expand human T cells. This Kit contains Biotinylated anti-human CD3 and CD28 antibodies, as well as cell culture grade Streptavidin magnetic beads. After Streptavidin magnetic beads are loaded with biotinylated CD3/CD28, they mimic antigen presenting cells and can activate resting T lymphocytes from human PBMCs or purified T lymphocytes. After 2-3 days of activation, magnetic beads can easily be removed by magnet. Further T lymphocytes expansion will require human cytokines for in vitro culture.

## Components

KMS310-10:

- MS310A-10: 100µL 0.1mg/mL functional grade Biotin-CD3 (clone: OKT3)
- MS310B-10: 100µL 0.1mg/mL functional grade Biotin-CD28 (clone: 28.2)
- MS310C-10: 500µL cell culture grade Streptavidin magnetic beads ( $2 \times 10^7$  beads/mL)

KMS310-100:

- MS310A-100: 1mL 0.1mg/mL functional grade Biotin-CD3 (clone: OKT3)
- MS310B-100: 1mL 0.1mg/mL functional grade Biotin-CD28 (clone: 28.2)
- MS310C-100: 5mL cell culture grade Streptavidin magnetic beads ( $2 \times 10^7$  beads/mL)

## Package

10test/100test

## Storage

2-8°C

## Reactivity

Human

## Beads diameter

2.7 µm

## Recommend usage

10µL Biotin-CD3, 10µL Biotin-CD28 and 50µL Streptavidin magnetic beads; mix well and add 30µL buffer for incubation. 100µL antibody-loaded magnetic beads contains  $1 \times 10^7$  magnetic particles and is used to activate  $1 \times 10^7$  purified human T lymphocytes or human PBMCs in 2mL cell culture media (1:1 bead to cell ratio).

For technical support and original validation data for this product please contact:

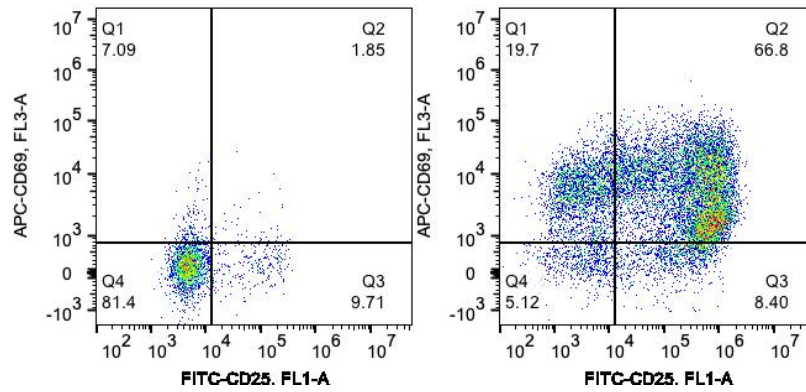
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E: proteintech@ptglab.com  
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This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.

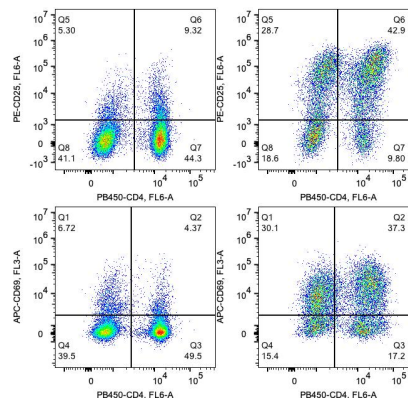
## Validation Data

Representative example of human PBMCs activation



$2.5 \times 10^6$  human PBMCs in 0.5 mL cell culture media are activated by Human CD3/CD28 T Cell Activation Beads Kit for 3 days at a 1:1 bead to cell ratio. Unstimulated cells (left panel) and stimulated cells (right panel) are stained with fluorescence flow antibodies APC-CD69 and FITC-CD25. Total viable lymphocytes are gated. The activation effect of the Human CD3/CD28 T Cell Activation Beads Kit was tested on human PBMCs from three different donors.

Representative example of isolated T lymphocytes activation



$2.5 \times 10^6$  human CD3+ lymphocytes purified by Human CD3 T Cell Isolation Kit (KMS309) in 0.5 mL cell culture media are activated by Human CD3/CD28 T Cell Activation Beads Kit for 3 days at a 1:1 bead to cell ratio. Unstimulated cells (left panel) and stimulated cells (right panel) are stained with fluorescence flow antibodies APC-CD69, PE-CD25 and PB-CD4. Total viable lymphocytes are gated. The activation effect of the Human CD3/CD28 T Cell Activation Beads Kit was tested on human PBMCs from three different donors.

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