For Research Use Only

Human CD3/CD28 T cell Activation Beads Kit

Catalog Number: KMS310

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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 0.2mg/mL functional grade Biotin-CD28 (clone: 28.2)
- MS310C-10: 500μL cell culture grade Streptavidin magnetic beads ($2x10^8$ beads/mL)

KMS310-100:
- MS310A-100: 1mL 0.1mg/mL functional grade Biotin-CD3 (clone: OKT3)
- MS310B-100: 1mL 0.2mg/mL functional grade Biotin-CD28 (clone: 28.2)
- MS310C-100: 5mL cell culture grade Streptavidin magnetic beads ($2x10^8$ beads/mL)

Package

10test/100test

Storage

2-8°C

Storage buffer

Biotin antibody buffer: PBS and 0.5% HSA, pH7.4
Streptavidin bead buffer: PBS and 0.5% HSA, 2mM EDTA, pH7.4

Reactivity

Human

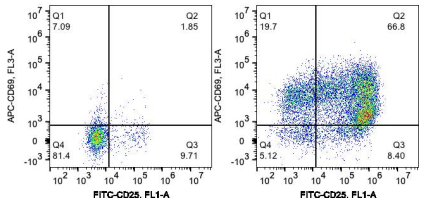
Beads diameter

2.7 μm

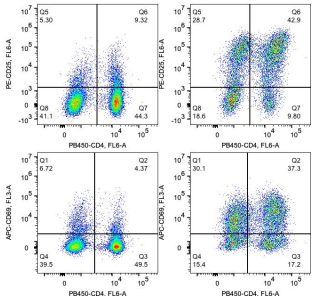
Recommend usage

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 $1x10^7$ magnetic particles and is used to activate $1x10^7$ purified human T lymphocytes or human PBMCs in 2mL cell culture media (1:1 bead to cell ratio).

Results



Representative example of human PBMCs activation: 2.5x10^6 human PBMCs in 0.5mL 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: 2.5x10^6 human CD3+ lymphocytes purified by Human CD3 T Cell Isolation Kit (KMS309) in 0.5mL 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.