Th9 Polarization of Mouse CD4+ Cells

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EXTERNAL LINK

https://www.biolegend.com/protocols/th9-polarization-of-mouse-cd4--cells-protocol/4243/

PROTOCOL STATUS

Working

MATERIALS TEXT

- Sterile PBS
- Cell culture medium (IMDM supplemented with 10% FBS)
- Sterile plastic petri dishes
- RBC Lysis Buffer (Cat. No. 420301)
- Anti-mouse CD3ε, clone 145-2C11 (LEAF™ format, Cat. No. 100314)
- Anti-mouse CD28, clone 37.51, (LEAF™ format, Cat. No. 102112)
- Mouse MojoSort™ CD4 T-cell Isolation Kit (Cat. No. 480005)
- Anti-mouse IFN-γ, clone XMG1.2, (LEAF™ format, Cat. No. 505812)
- Recombinant mouse IL-2 (carrier-free) (Cat. No. 575402)
- Recombinant mouse IL-4 (carrier-free) (Cat. No. 574302)
- Recombinant human TGF-β1 (carrier-free) (Cat. No. 580702)
- Monensin Solution (Cat. No. 420701)
- PMA (Phorbol 12-myristate 13-acetate) (Cat. No. P8139 from Sigma)
- Ionomycin (Cat. No. I0634 from Sigma)

Isolation of CD4+ Cells From Lymph Nodes

1 Harvest lymph nodes (superficial cervical, mandibular, axillary, inguinal, and mesenteric) from mice.

2 Tease lymph nodes through a sterile 70-µm nylon cell strainer to obtain single-cell suspensions in complete IMDM containing 10% FCS (complete medium).

3 Resuspend cells in complete medium and use your favorite method to isolate $CD4^+$cells. Consider using our MojoSort™ Mouse CD4 T Cell Isolation Kit.

Th9 Polarization of CD4+ Cells:

4 On day 0, coat 60 x 15mm of plastic petri dishes with anti-mouse CD3ε, clone 145-2C11 (5µg/ml). Incubate at 37°C for 2 hours or 4°C overnight. Aseptically decant antibody solution from the plate. Wash plate 3 times with sterile PBS. Discard liquid. 02:00:00

5 Plate CD4+ cells at 10 x 10^6/5 ml/dish. Culture cells for 3 days in the presence of anti-mouse CD28, clone 37.51 (5µg/mL), recombinant human TGF-β1 (10ng/mL), recombinant mouse IL-4 (10ng/mL), recombinant mouse IL-2 (20ng/ml), and anti-mouse IFN-γ, clone XMG1.2 (10µg/mL).

6 On day 3, wash cells once and then restimulate in complete medium with 500ng/ml PMA and 500ng/mL ionomycin, in the presence of monensin for 6 hours. 06:00:00

7 After harvesting, the cells are ready for staining.

Note: Recombinant human TGF-β is effective for stimulating mouse cells.