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GATA3 Luciferase Reporter-HEK293 Cell Line

Catalog number: RC1009

This package insert must be read in its entirety before using this product.
For research use only. Not for use in diagnostic procedures.

GATA3 Luciferase Reporter-HEK293 Cell Line

Catalog Number: RC1009, **Storage:** Immediately upon receipt, store in liquid nitrogen. (Ship on dry ice.)

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antibody and ELISA experts

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Contents: Each vial contains 2 ~ 3 x 10^6 cells in 1 ml of 90% FBS + 10% DMSO.
Description: The GATA3 Luciferase Reporter cell line is a stably transfected HEK 293 cell line which expresses Renilla luciferase reporter gene under the transcriptional control of the GATA3 response element, so that the cell line is designed to measure the transcriptional activity of GATA3. As a zinc-finger transcription factor, GATA3 (GATA-binding protein 3) plays a critical role in early and late T cell differentiation, which regulates Th1/Th2 differentiation. GATA3 has been shown to induce Th2 differentiation and repress Th1 differentiation. GATA3 is also known to promote the secretion of IL-4, IL-5 and IL-13 from Th2 cells. The GATA3 induction by phorbol 12-myristate 13-acetate (PMA) is shown in Figure 1.
Applications: Functional Assay
Application Notes: Functional Assay, detecting the transcriptional activity of GATA3
Application Details:

Application:

Monitor the GATA3 signaling pathway activity.Screen for activators or inhibitors of the GATA3 signaling pathway.

Culture conditions:

Cells should be grown at 37°C with 5% CO2 using DMEM medium supplemented with 10% FBS and 1% Pen/Strep, plus 3 µg/ml of Puromycin. It is recommended to quickly thaw the frozen cells upon receipt or from liquid nitrogen in a 37°C water-bath, transfer to a tube containing 10 ml of growth medium without Puromycin, spin down cells, resuspend cells in pre-warmed growth medium without Puromycin, transfer resuspended cells to T25 flask and culture in 37°C-CO2 incubator. Leave the T25 flask in the incubator for 2~4 days without disturbing or changing the medium until cells completely recover viability and become adherent. Once cells are over 90% adherent, remove growth medium and passage the cells through trypsinization and centrifugation. At first passage, switch to growth medium containing Puromycin. Cells should be split before they reach complete confluence. To passage the cells, detach cells from culture vessel with Trypsin/EDTA, add complete growth medium and transfer to a tube, spin down cells, resuspend cells and seed appropriate aliquots of cells suspension into new culture vessels. Subcultivation ration = 1:10 to 1:20 weekly.

Functional validation:

A. Response of GATA3 HEK293 cells to phorbol 12-myristate 13-acetate (PMA).1. Harvest GATA3 HEK293 cells and seed cells into a white solid-bottom 96-well microplate in 100 µl of growth medium at 5 x 10^4 cells/well. 2. Incubate cells at 37°C in a CO2 incubator for overnight. 3. The next day, stimulate cells with different concentrations of PMA. 4. Incubate at 37°C in a CO2 incubator for 6-16 hours. 5. Add 50 µl of luciferase assay reagent per well. 6. Incubate at room temperature for 1-5 minutes and measure luminescence using a microplate luminometer.

GATA3 Luciferase Reporter-HEK293 Cell Line (RC1009) Images

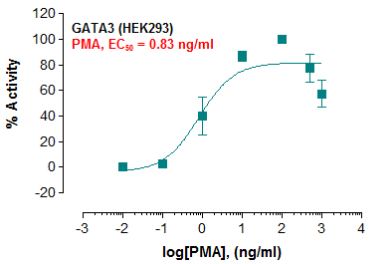

Fig-1:. Induction of GATA3 activity by PMA in GATA3 HEK293 cells.

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