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STAT4 Luciferase Reporter-Ba/F3 Cell Line

Catalog number: RC1045

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

STAT4 Luciferase Reporter-Ba/F3 Cell Line

Catalog Number: RC1045, **Storage:** Immediately upon receipt, store in liquid nitrogen. (Ship on dry ice.)
Contents: Each vial contains 2 ~ 3 x 10^6 cells in 1 ml of 90% FBS + 10% DMSO.
Description: The STAT4 Luciferase Reporter cell line is a stably transfected Ba/F3 cell line which expresses Renilla luciferase reporter gene under

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the transcriptional control of the STAT4 responsive promoter, so that the cell line is designed to measure the transcriptional activity of STAT4. Signal Transducer and Activator of Transcription 4 (STAT4) is a member of the STAT transcription factor family and plays a central role in generating inflammation during protective immune responses and immune-mediated diseases. The STAT4 induction by interferon gamma is shown in Figure 1.

Applications: Functional Assay

Application Notes: Functional Assay, detecting the transcriptional activity of STAT4

Application Details:

Application:

Monitor the STAT4 signaling pathway activity.Screen for activators or inhibitors of the STAT4 signaling pathway.

Culture conditions:

Cells should be grown at 37oC with 5% CO2 using RPMI medium supplemented with 10% heat-inactivated FBS, 1 mM sodium pyruvate, 10 mM HEPES and 1% Pen/Strep, plus 5 ng/ml mIL-3 (Note: mIL-3 is essential for Ba/F3 cell maintenance), plus 3 µg/ml of Puromycin. (Note: The parental Ba/F3-Puro cell line (Part #14135CCL) is a blank vector-transfected stable cell line which also requires 3 µg/ml of Puromycin for cell culture maintenance!)It is recommended to quickly thaw the frozen cells upon receipt or from liquid nitrogen in a 37oC 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 37oC-CO2 incubator. Monitor the cell viability by counting cells daily for 1~3 days until cells completely recover viability as cells are doubling daily. Once cells are over 90% confluent, harvest cells by centrifugation and passage cells. At first passage, switch to growth medium containing Puromycin. Cells should be split before they reach complete confluence.To passage the cells, transfer cells to a tube, spin down cells, resuspend cells and seed appropriate aliquots of cell suspension into new culture vessels. Subcultivation ration = 1:10 to 1:20 weekly. To achieve satisfactory results, cells should not be passaged over 16 times.

Functional validation:

A. Response of STAT4 – Ba/F3 cells to mIFN-gamma. 1. Harvest STAT4 – Ba/F3 cells and seed cells into a white solid-bottom 96-well microplate in 100 µl of growth medium without IL-3 at 1 x 10^5 cells/well. 2. Right after plating cells, stimulate cells with various concentrations of mouse IFN-gamma and incubate cells at 37oC in a CO2 incubator for 6-16 hours. 3. Add 50 µl of luciferase assay reagent per well. 4. Incubate at room temperature for 1-5 minutes and measure luminescence using a microplate luminometer.

STAT4 Luciferase Reporter-Ba/F3 Cell Line (RC1045) Images

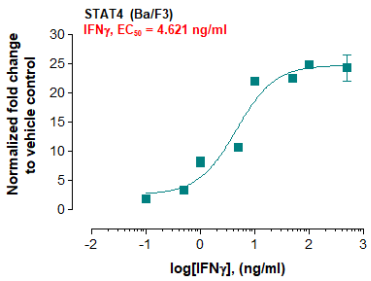


Fig-1: Induction of STAT4 activity by mIFN-gamma in STAT4 – Ba/F3 cells.

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