

14-122ACL: TLR3/IFNB Lleeporter™ Luciferase Reporter-HEK293 Cell Line

Application : Functional Assay

Description

The TLR3/IFNB Lleeporter™ Luciferase Reporter cell line is a stably transfected HEK 293 cell line which expresses full-length human Toll-like receptor 3 (TLR3) and Renilla luciferase reporter gene under the transcriptional control of the human IFN-beta (IFNB) promoter. Functional activity of the cell line has been validated by TLR3 ligand assay (Figure 1), in which upon activation by poly (I:C), TLR3 quickly initiates TRIF-dependent signaling pathway and mediates nuclear translocation of IRF3 that induces IFNB promoter activity. The TLR3/IFNB activation by poly(I:C) is shown in Figure 1.

Product Info

Amount : 1 Vial
Content : Each vial contains $2 \sim 3 \times 10^6$ cells in 1 ml of 90% FBS + 10% DMSO.
Storage condition : Immediately upon receipt, store in liquid nitrogen.

Application Note

Application:

- Monitor the TLR3 signaling pathway activity.
- Screen for activators or inhibitors of the TLR3 signaling pathway.

Culture conditions:

Cells should be grown at 37°C with 5% CO₂ using DMEM medium (w/ L-Glutamine, 4.5g/L Glucose and Sodium Pyruvate) supplemented with 10% heat-inactivated FBS and 1% Pen/Strep, plus 2 µg/ml of Puromycin and 5 µg/ml Blasticidin (Note: Puromycin Blasticidin can be omitted during the reporter cell assays).

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 and Blasticidin, spin down cells, resuspend cells in pre-warmed growth medium without Puromycin and Blasticidin, transfer resuspended cells to T25 flask and culture in 37°C-CO₂ incubator.

Leave the T25 flask in the incubator for 1~3 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 and Blasticidin. 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. To achieve satisfactory results, cells should not be passaged over 16 times.

Functional validation:**A. Response of TLR3/IFN β Reporter™ – HEK293 cells to Poly(I:C).**

1. Harvest TLR3/IFN β Reporter™ – HEK293 cells and seed cells into a white solid-bottom 96-well microplate in 100 μ l of growth medium at 5×10^4 cells/well.
2. Incubate cells at 37°C in a CO₂ incubator for overnight.
3. The next day, stimulate cells with various concentrations of poly(I:C).
4. Incubate at 37°C in a CO₂ incubator for 16 hours.
5. Equilibrate the plate to room temperature for 10 minutes.
6. Add 50 μ l of luciferase assay reagent (Abeomics, Cat #17-1101; Refer to the reagent datasheet for the detailed luciferase assay protocol) per well.
7. Read the plate in 1-5 minutes to measure luminescence using a microplate luminometer.

LIMITED USE RESTRICTIONS:

THIS PRODUCT IS SOLELY FOR IN VITRO RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

By use of this product, user agrees to be bound by the terms of this limited use statement.

This product is solely for Internal Research Purposes and not for Commercial Purposes. Commercial Purposes include, but are not limited to (1) use of the cell line in manufacturing; (2) use of the cell line to provide a service, information or data; (3) use of the cell line for therapeutic, diagnostic or prophylactic purposes; or (4) resale of the cell line whether or not such cell lines are resold for use in research. The buyer cannot sell, give or otherwise transfer this product to a third party.

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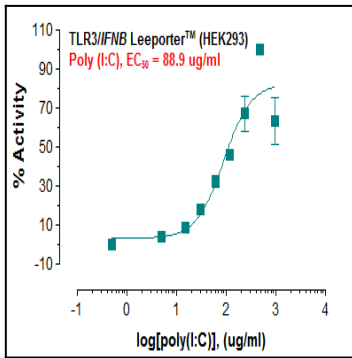


Fig-1: Induction of TLR3 activity by poly(I:C) in TLR3/IFNβ Reporter™ - HEK293 cells.