



# **TLR2/NF-kB Luciferase Reporter- HEK293 Cell Line**

**Catalog number: RC1027**

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

## **TLR2/NF-kB Luciferase Reporter-HEK293 Cell Line**

**Catalog Number:** RC1027, **Storage:** Immediately upon receipt, store in liquid nitrogen. (Ship on dry ice.)

**Contents:** Each vial contains  $2 \sim 3 \times 10^6$  cells in 1 ml of 90% FBS + 10% DMSO.

**Description:** The TLR2/NF- $\kappa$ B Luciferase Reporter cell line is a stably transfected HEK 293 cell line which expresses full-length human Toll-like receptor 2 (TLR2) and Renilla luciferase reporter gene under the transcriptional control of the NF- $\kappa$ B response element. TLR2 is one of the key innate immune receptors. Functional activity of the cell line has been validated by TLR2 ligand assay, in which upon activation by Pam3CSK4, TLR2 quickly initiates downstream signaling pathway and mediates nuclear translocation of NF- $\kappa$ B (Figure 1).

**Applications:** Functional Assay

**Application Notes:** Functional Assay, detecting the transcriptional activity of TLR2/NF- $\kappa$ B

**Application Details:** Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.

If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.

Some PubMed article(s) citing the expression level of this target are as follows:

Boster Bio's internal QC testing used:

## Application:

Monitor the TLR2 signaling pathway activity. Screen for activators or inhibitors of the TLR2 signaling pathway.

## Culture conditions:

Cells should be grown at 37°C with 5% CO<sub>2</sub> using DMEM medium supplemented with 10% FBS and 1% Pen/Strep, plus 2 µg/ml Puromycin and 5 µg/ml Blasticidin. 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-CO<sub>2</sub> 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 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.

## Functional validation:

A. Response of TLR2/NF- $\kappa$ B – HEK293 cells to Pam3CSK4. 1. Harvest TLR2/NF- $\kappa$ B – HEK293 cells and seed cells into a white solid-bottom 96-well microplate in 100 µl of growth medium at  $5 \times 10^4$  cells/well. 2. Incubate cells at 37°C in a CO<sub>2</sub> incubator for overnight. 3. The next day, stimulate cells with various concentrations of Pam3CSK4. 4. Incubate at 37°C in a CO<sub>2</sub> 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.

## TLR2/NF- $\kappa$ B Luciferase Reporter-HEK293 Cell Line (RC1027) Images

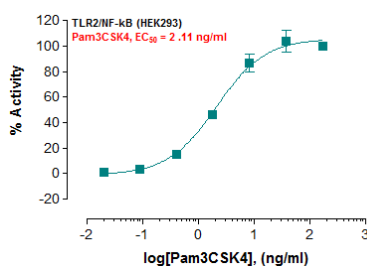


Fig-1: Induction of TLR2 activity by Pam3CSK4 in TLR2/NF- $\kappa$ B HEK293 cells.

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