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Data Sheet TCR Activator - Raji Cell Line Catalog #: 60556

Product Description

Recombinant Raji cell expressing an engineered T cell receptor (TCR) activator.

Format

Each vial contains 1 x 10⁶ cells in 1 ml of 10% DMSO

Storage

Immediately upon receipt, store in liquid nitrogen.

Mycoplasma Testing

The cell line has been screened using the PCR-based Venor®GeM Mycoplasma Detection kit (Sigma-Aldrich, #MP0025) to confirm the absence of *Mycoplasma* species.

Culture Medium and Recommended Culture Conditions

Thaw Medium 2 (BPS Cat. #60184): RPMI1640 medium (Life Technologies, #A10491-01) supplemented with 10% FBS (Life Technologies, #26140-079), 1% Penicillin/Streptomycin (Hyclone, #SV30010.01).

Complete Growth Medium: Thaw Medium 2 (BPS Bioscience, ,#60184) + 200 μ g/ml of Hygromycin B (Hyclone, #SV30070.01).

Cells should be grown at 37°C with 5% CO₂ using **complete growth medium** (Thaw Medium 2+ 200 µg/ml of Hygromycin B).

To thaw the cells, it is recommended to quickly thaw the frozen cells from liquid nitrogen in a 37° C water-bath. Transfer the entire contents of the vial to a tube containing 10 ml of Thaw Medium 2 (**no Hygromycin B**), spin down cells at 1500 rpm, remove supernatant and resuspend cells in 5 ml of pre-warmed Thaw Medium 2 (**no Hygromycin B**). Transfer resuspended cells to a T25 flask and culture at 37° C in a 5% CO₂ incubator overnight. The next day, add an additional ~3 ml of fresh warm Thaw Medium 2 (**no Hygromycin B**), and continue growing culture in a CO₂ incubator at 37° C until the cells are ready to be split. Cells should be split before they reach 2.5×10^6 cells/ml. At first passage, switch to complete growth medium (**contains Hygromycin B**).

To passage the cells, dilute cell suspension into new culture vessels at no less than 0.2×10^6 cells/ml. Subcultivation ratio: ~1:5 to1:10 once or twice a week, so cells are maintained at 0.2×10^6 cells/ml to 2.5×10^6 cells/ml.



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<u>Note</u>: Just after thawing, the cells may grow at a slower rate. It is recommended to split the cells at no less than 0.4×10^6 cells/ml at the beginning of culturing. After two or three passages, the cell growth rate increases and the cells can be split to 0.2×10^6 cells/ml.

To freeze down the cells, spin down cells, and resuspend cell pellet in 4°C Freezing Medium (10% DMSO + 90% FBS) to ~2x10⁶ cells/ml. Dispense 1 ml of cell aliquots into cryogenic vials. Place vials in an insulated container for slow cooling and store at -80°C overnight. Transfer to liquid nitrogen the next day for storage.

It is recommended to expand the cells and at early passage, freeze down more than 10 vials of cells for future use.

Functional Validation

The functionality of the cell line was validated using a luciferase reporter cell-based assay. In this assay, Jurkat T cells expressing NFAT reporter are co-cultivated with TCR Activator – Raji cells. TCR complexes on the Jurkat cells are activated by TCR activator on the TCR Activator – Raji cells, resulting in expression of the NFAT luciferase reporter.

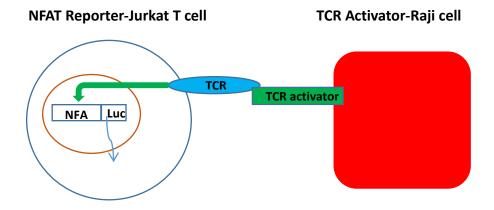


Figure 1. Co-culture of TCR Activator-Raji cells with NFAT Reporter-Jurkat cells induced NFAT reporter expression in Jurkat cells.

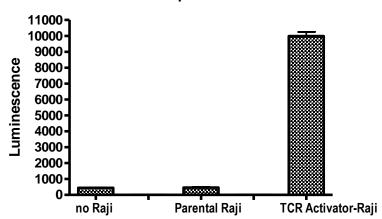
TCR Activator-Raji cells or parental Raji cells were seeded in 96-well plate, then NFAT Reporter-Jurkat cells (BPS Bioscience, #60621) were added to TCR activator-Raji cells. After 5-6 hour incubation, ONE-Step[™] Luciferase reagent (BPS Bioscience, #60690) was added to the cells to measure NFAT-induced luciferase activity.



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NFAT Reporter-Jurkat



<u>Product</u>	Cat. #	<u>Size</u>
TCR Activator-CHO cell line	60539	2 vials
NFAT Reporter – Jurkat cell line	60621	2 vials
Thaw Medium 2	60184	100 ml
ONE-Step™ Luciferase Assay System	60690-1	10 ml
ONE-Step [™] Luciferase Assay System	60690-2	100 ml
TCR Activator / PD-L1 Mammalian Expression Kit	60610	500 rxns.
TCR Activator / PD-L2 Mammalian Expression Kit	60620	500 rxns.
PD-L1 / TCR Activator - CHO Recombinant Cell Line	60536	2 vials
CD155 / TCR Activator - CHO Recombinant Cell line	60548	2 vials
PD-1 / NFAT Reporter - Jurkat Recombinant Cell Line	60535	2 vials
TIGIT / NFAT Reporter - Jurkat Recombinant Cell Line	60538	2 vials
LAG3 / NFAT Reporter - Jurkat Recombinant Cell Line	71278	2 vials

Notes

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