Validation data for THP1-Lucia™ NF-κB cells

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Version 24B08-AK

THP1-Lucia™ NF-κB cells were specifically designed for monitoring the NF-κB signal transduction pathway in a physiologically relevant cell line. THP1-Lucia™ cells were derived from the human THP-1 monocyte cell line by stable integration of an NF-κB-inducible Lucia luciferase reporter construct. As a result, THP1-Lucia™ NF-κB cells allow the monitoring of NF-κB activation by assessing the activity of the Lucia luciferase. The level of NF-κB-induced Lucia in the cell culture supernatant is readily assessed with QUANTI-Luc™ 4 Lucia/Gaussia, a luciferase detection reagent. As THP-1 cells endogenously express many pattern-recognition receptors (PRRs), THP1-Lucia™ NF-κB cells are highly responsive to PRR agonists that trigger the NF-κB pathway (Figure 1).

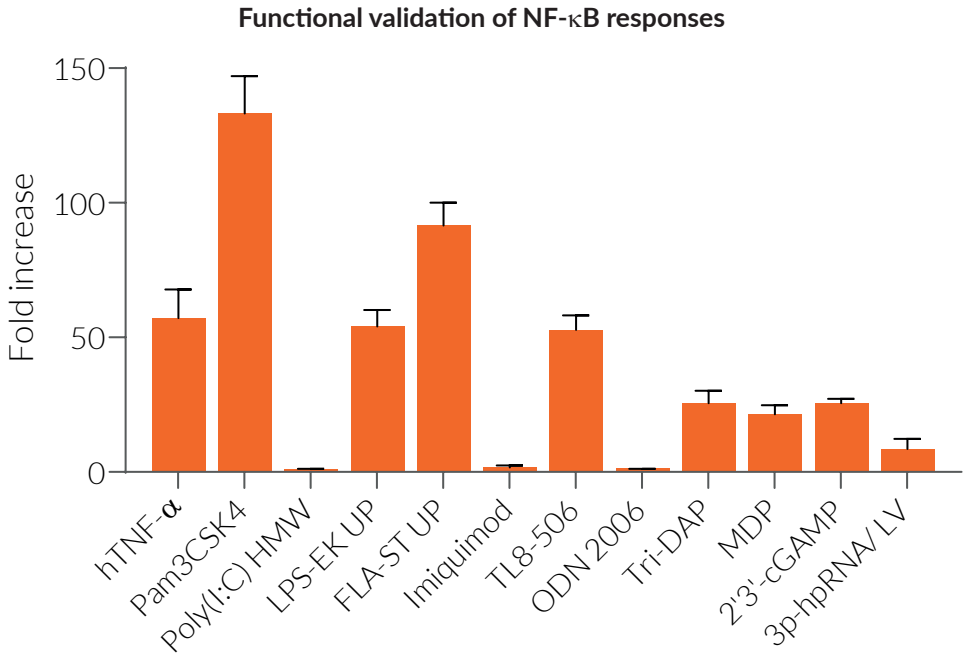

Figure 1. NF-κB responses in THP1-Lucia™ NF-κB cells. Cells were incubated for 24 hours with various PRR ligands: Pam3CSK4 (TLR2 ligand, 10 ng/ml), Poly(I:C) HMW (TLR3 ligand, 10 µg/ml), LPS-EK Ultrapure (UP) (TLR4 ligand, 10 ng/ml), FLA-ST UP (TLR5 ligand, 10 ng/ml), Imiquimod (TLR7 ligand, 10 µg/ml), TL8-506 (TLR8 ligand, 1 µg/ml), ODN 2006 (TLR9 ligand, 10 µg/ml), Tri-DAP (NOD1 ligand, 10 µg/ml), MDP (NOD2 ligand, 10 µg/ml), 2'3'-cGAMP (STING ligand, 100 µg/ml), and 3p-hpRNA complexed with LyoVec™ (LV) (RIG-I ligand, 1 µg/ml) . Human TNF-α (10 ng/ml) was used as an NF-κB-positive control. After 24h incubation, the NF-κB response was assessed by measuring the activity of Lucia luciferase in the supernatant using QUANTI-Luc™. Data are shown in fold response over non-induced cells (mean ± SEM).

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