THP1-Dual™ KO-DNase2 cells were generated from the THP1-Dual™ cell line through the stable biallelic knockout of the DNASE2 gene, as verified by PCR (Figure 1). Additionally, these cells feature two reporter genes allowing the simultaneous study of NF-κB- and IRF-induced responses by monitoring the SEAP (secreted embryonic alkaline phosphatase) and Lucia luciferase activities, respectively. There are no notable differences in the NF-κB- and IRF-mediated responses in THP1-Dual™ KO-DNase2 cells when compared to their parental cell line (Figures 2 and 3).

**Validation of DNASE2 knockout**

![Figure 1: Validation of DNase2 KO.](https://www.invivogen.com/thpd-kodnase2)

**Functional validation of DNASE2 knockout (NF-κB response)**

![Figure 2: NF-κB responses in THP1-Dual™-derived cells.](https://www.invivogen.com/thpd-kodnase2)
Functional validation of DNASE2 knockout (IRF response)

**Figure 3: IRF responses in THP1-Dual™-derived cells.** THP1-Dual™ and THP1-Dual™ KO-DNase2 cells were incubated with 1 ng/ml human (h)TNF-α (NF-κB-SEAP positive control), 100 ng/ml LPS-EK Ultrapure (TLR4 agonist), 10 µg/ml CL075, 10 µg/ml R848 (both TLR7/8 agonists), 1 µg/ml VacV70 complexed with LyoVec™ (CDS agonist), 1 µg/ml 3p-hpRNA complexed with LyoVec™ (RIG-I agonist) and 30 µg/ml 2’3’-cGAMP (STING agonist). After overnight incubation, the IRF response was assessed by measuring the activity of Lucia luciferase in the supernatant using QUANTI-Luc™. The IRF induction of each ligand is expressed relative to that of hIFN-β at 1x10³ U/ml (mean ± SEM).