

Validation data for HEK-Blue™ IL-18 cells

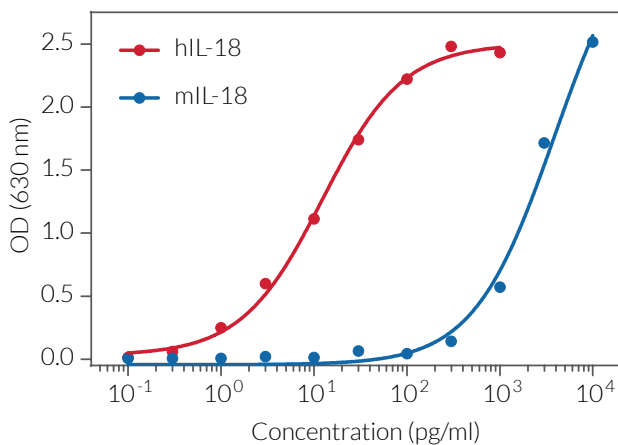
<https://www.invivogen.com/hek-blue-il18>

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Version 20D22-MM

HEK-Blue™ IL-18 cells allow the detection of bioactive interleukin-18 (IL-18) by monitoring NF-κB and AP-1 activation. These human embryonic kidney 293 (HEK293)-derived cells express an NF-κB/AP-1-inducible secreted embryonic alkaline phosphatase (SEAP) reporter gene. HEK-Blue™ IL-18 cells display high sensitivity to human IL-18 (detection range: 10-1000 pg/ml; **figure 1**) and low sensitivity to murine IL-18 (detection range: 3-100 ng/ml). Of note, in these cells the responses to human TNF-α and IL-1β have been blocked (**figure 2**). HEK-Blue™ IL-18 cells are non-responsive to human IL-1β (hIL-1β), hIL-33, hIFN-α, hIFN-β, hIFN-γ, and hTNF-α (**figure 2**). These cells can be used for screening antibodies targeting the IL-18 pathway (**figure 3**).

Cellular response to IL-18



Cytokine	EC ₅₀ (pg/ml)
hIL-18	15 ± 10
mIL-18	N/A

Figure 1. Dose-response of HEK-Blue™ IL-18 cells to recombinant IL-18. Cells were stimulated with increasing concentrations of recombinant human IL-18 (hIL-18) and murine IL-18 (mIL-18). After overnight incubation, the NF-κB/AP-1 response was determined using QUANTI-Blue™ Solution, a SEAP detection reagent, and reading the optical density (OD) at 630 nm. EC₅₀ values are shown as mean ± SD.

Cell line specificity

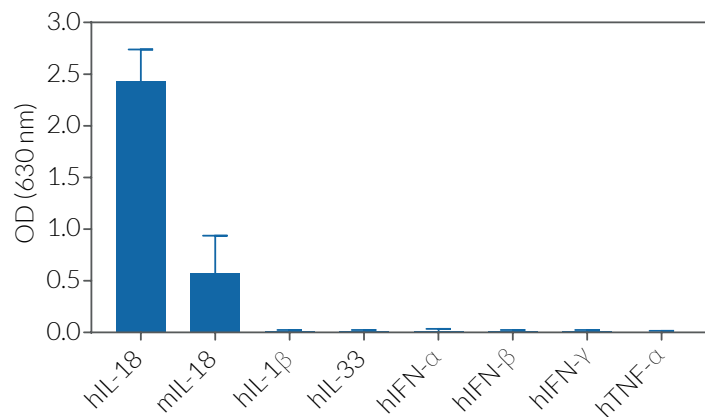


Figure 2. Response of HEK-Blue™ IL-18 cells to a panel of cytokines. Cells were stimulated with various human and murine recombinant cytokines: 1 ng/ml of hIL-18, mL-18, 10 ng/ml of hIL-1β, hIL-33, hIFN-γ, hTNF-α, or 10² U/ml hIFN-α or hIFN-β. After overnight incubation, SEAP activity was assessed using QUANTI-Blue™ Solution. The optical density (OD) at 630 nm is shown as mean ± SD.

Human IL-18 signaling inhibition

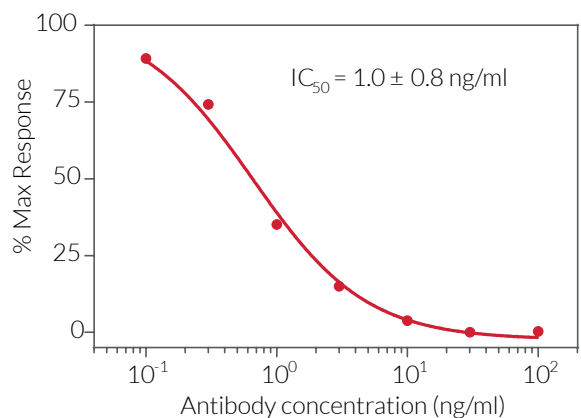


Figure 3. Dose-dependent inhibition of HEK-Blue™ IL-18 cellular response using a neutralizing antibody against hIL-18. The anti-hIL18 antibody was incubated with the cells for 30 minutes prior to the addition of hIL-18 (10 pg/ml). After overnight incubation, SEAP activity in the cell culture supernatant was assessed using QUANTI-Blue™ Solution. Data represent % of maximal reporter activity without the anti-hIL18 antibody.

TECHNICAL SUPPORT

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