

Validation data for HEK-Blue™ IL-6 cells

<https://www.invivogen.com/hek-blue-il6>

For research use only

Version 20E14-MM

HEK-Blue™ IL-6 cells allow the detection of bioactive IL-6 by monitoring the activation of the STAT-3 pathway. They were generated by stable transfection of human embryonic kidney 293 (HEK293)-derived cells with the genes encoding human IL-6R and STAT3, and a STAT3-inducible SEAP (secreted embryonic alkaline phosphatase) reporter. These cells can be used to validate the functionality of recombinant native (figure 1) or engineered human IL-6. They can also be used to screen for molecules that inhibit IL-6 signaling such as antibodies targeting IL-6 (figure 2) or IL-6R and inhibitors of JAK1/JAK2. The response of this cell line to IL-6 and other cytokines has been determined (figure 3). Of note, a moderate response to other STAT3-activating cytokines such as IFN- γ can be observed.

Evaluation of IL-6 response

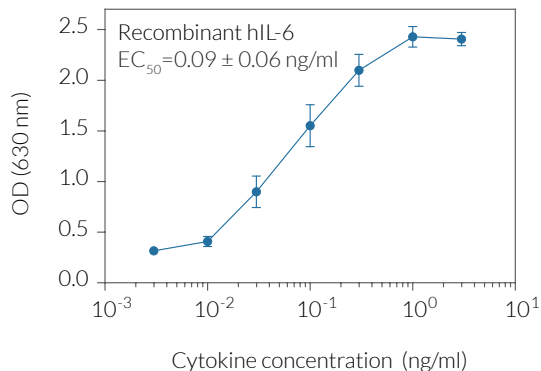


Figure 1. Dose-response of HEK-Blue™ IL-6 cells to recombinant human IL-6. Cells were stimulated with increasing concentration of recombinant human IL-6. After overnight incubation, the NF- κ B response was determined using QUANTI-Blue™ Solution, a SEAP detection reagent, and reading the optical density (OD) at 630 nm.

Evaluation of IL-6 inhibition

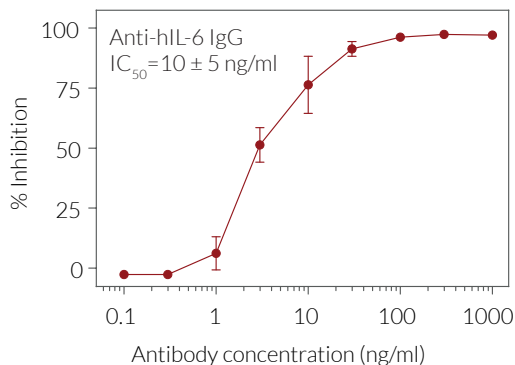


Figure 2. Dose-dependent inhibition of IL-6 response using Anti-hIL-6-IgG neutralizing antibody in HEK-Blue™ IL-6 cells. Anti-hIL-6-IgG was incubated with 1 ng/ml of hIL-6 for 30 minutes prior to the addition of HEK-Blue™ IL-6 cells. After overnight incubation, SEAP activity was assessed using QUANTI-Blue™ Solution. Data represent % inhibition of reporter activity.

Evaluation of specificity

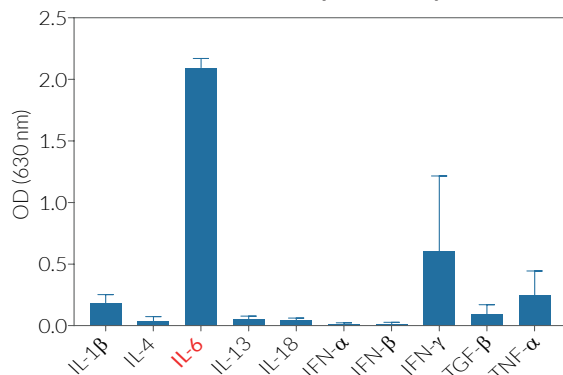


Figure 3. Cytokine response profile of HEK-Blue™ IL-6 cells. Cells were stimulated with various human recombinant cytokines; 3 ng/ml IL-1 β , IL-4, IL-6, IL-13, IL-18, IFN- γ , TGF- β , TNF- α or 1x10⁴ IU/ml IFN- α and IFN- β . After overnight incubation, SEAP activity was assessed using QUANTI-Blue™ Solution.

TECHNICAL SUPPORT

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