

Validation data for HEK-Blue™ IL-6 cells

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

For research use only

Version 24J28-AK

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 the human IL-6 receptor (IL-6R), 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 or IL-6R (figure 2) 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

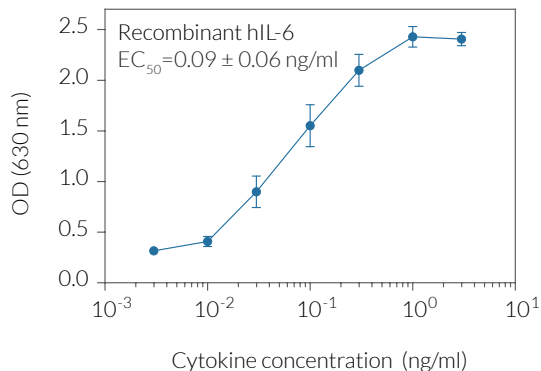


Figure 1. Dose-response of HEK-Blue™ IL-6 cells to recombinant human IL-6. Cells were stimulated with increasing concentration of recombinant human IL-6. After overnight incubation, the NF- κ B response was determined using QUANTI-Blue™ Solution, a SEAP detection reagent, and reading the optical density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

Evaluation of IL-6 inhibition

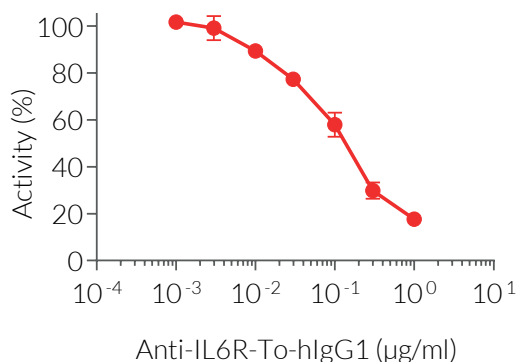


Figure 2. Dose-dependent inhibition of HEK-Blue™ IL-6 cells response using tocilizumab biosimilar. Anti-hIL6R-To-hIgG1 (0 - 1 µg/ml) was incubated with HEK-Blue™ IL-6 cells for 3 hours. Following this, recombinant human IL-6 (0.3 ng/ml) was added to the cells. After overnight incubation, STAT3-dependent SEAP activity in the cell culture supernatant was assessed using QUANTI-Blue™ Solution, a SEAP detection reagent. Data are presented as percentage (%) of the maximum response.

Evaluation of specificity

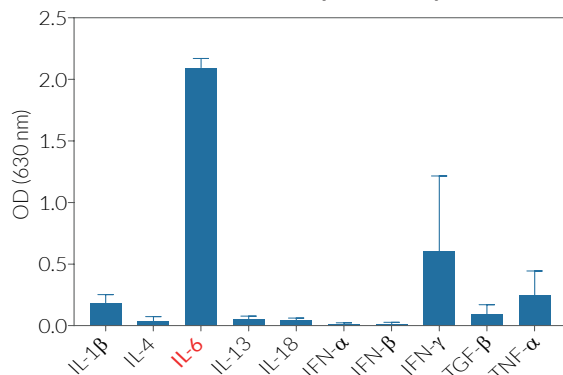


Figure 3. Cytokine response profile of HEK-Blue™ IL-6 cells. Cells were stimulated with various human recombinant cytokines; 3 ng/ml IL-1 β , IL-4, IL-6, IL-13, IL-18, IFN- γ , TGF- β , TNF- α or 1x10⁴ IU/ml IFN- α and IFN- β . After overnight incubation, SEAP activity was assessed using QUANTI-Blue™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

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873
InvivoGen USA (International): +1 (858) 457-5873
InvivoGen Europe: +33 (0) 5-62-71-69-39
InvivoGen Asia: +852 3622-3480
E-mail: info@invivogen.com