

Validation data for HEK-Blue™ IFN-λ cells

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

For research use only

Version 23113-AK

HEK-Blue™ IFN-λ cells allow the detection of bioactive type III interferons IFN-λ by monitoring the activation of the JAK/STAT/ISGF3 pathway. These cells were generated by the stable transfection of HEK293 cells with the human *IFNLR* and *IL10R* receptor genes, along with *hSTAT2* and *IRF9* to obtain a fully active IFN-λ signaling pathway. They also express a SEAP reporter gene under the control of the IFN-inducible ISG54 promoter. These cells respond strongly to human and/or murine interleukin-28a (IL-28a; IFN-λ₂), IL-28b (IFN-λ₃) and IL-29 (IFN-λ₁) (Figures 1 & 2). Of note, HEK-Blue™ IFN-λ cells do not respond to either type I IFNs (IFN-α/β) or type II IFN (IFN-γ) (Figure 3). These cells can also be used to screen for molecules that inhibit type III IFNs signaling, such as antibodies targeting hIL-29 (Figure 4).

Dose-response to human type III IFNs

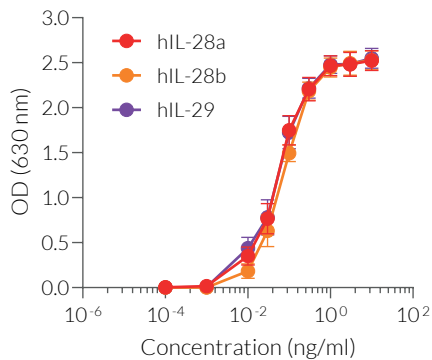


Figure 1. Dose-response of HEK-Blue™ IFN-λ cells to human recombinant type III IFNs. Cells were stimulated with increasing concentrations of recombinant human (h) interleukin (IL)-28a (hIFN-λ₂), hIL-28b (hIFN-λ₃), and hIL-29 (hIFN-λ₁). After overnight incubation, the SEAP activation was determined by measuring the optical density (OD) at 630 nm (mean ± SEM).

Dose-response to murine type III IFNs

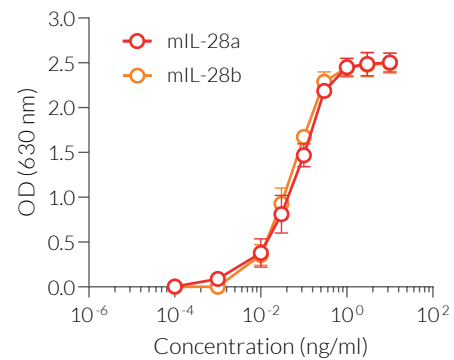


Figure 2. Dose-response of HEK-Blue™ IFN-λ cells to murine recombinant type III IFNs. Cells were stimulated with increasing concentrations of recombinant murine (m)IL-28a (mIFN-λ₂) and mL-28b (mIFN-λ₃). After overnight incubation, the SEAP activation was determined by measuring the optical density (OD) at 630 nm (mean ± SEM).

Response profile of HEK-Blue™ IFN-λ cells

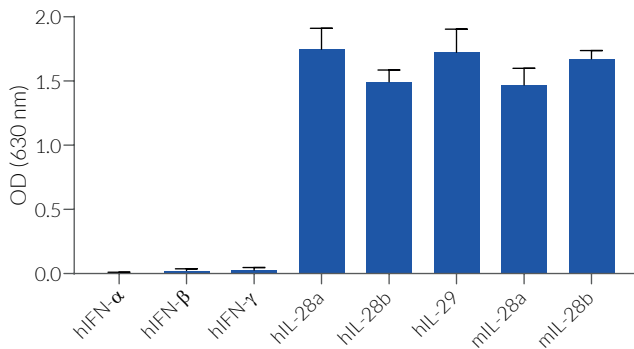


Figure 3. Response of HEK-Blue™ IFN-λ cells to a panel of cytokines. Cells were stimulated with various human recombinant cytokines: 1000 U/ml hIFN-α_{2b}, hIFN-β_{1a}, 100 ng/ml hIFN-γ, or 100 pg/ml hIL-28a, hIL-28b, hIL-29, mL-28a, or mL-28b. After overnight incubation, SEAP activity was assessed using QUANTI-Blue™ Solution. The optical density (OD) at 630 nm is shown as mean ± SEM.

Neutralization of IFN-λ response using anti-hIL29 mAb

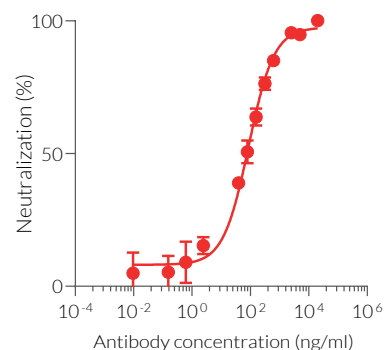


Figure 4. Dose-dependent inhibition of HEK-Blue™ IFN-λ cell response using InvivoGen's anti-hIL-29-IgG mAb. A serial dilution of Anti-hIL-29-IgG monoclonal antibody (mAb) was incubated with 0.25 ng/ml of recombinant hIL-29 for 30 minutes prior to the addition of the HEK-Blue™ IFN-λ cells. After 24h, the SEAP activation was determined. Data is shown as the percentage of neutralization (mean ± SEM).

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