

Validation data for HEK-Blue™ IFN- α / β cells

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

For research use only

Version 22F03-NJ

HEK-Blue™ IFN- α / β cells allow the detection of bioactive type I interferons IFN- α and IFN- β by monitoring the activation of the JAK/STAT/ISGF3 pathway. These cells were generated by the stable transfection of HEK293 cells with the human STAT2 and IRF9 genes to obtain a fully active IFN- α / β signaling pathway. They also express a SEAP reporter gene under the control of the IFN-inducible ISG54 promoter. These cells respond strongly to both human IFN- α and IFN- β (Figure 1). Of note, HEK-Blue™ IFN- α / β cells respond to a low extent to type III IFNs (IFN- λ) and poorly to type II IFN (IFN- γ) (Figure 2). These cells can also be used to screen for molecules that inhibit IFN- α / β signaling, such as antibodies targeting IFN- α (Figure 3).

Cellular response to IFN α and IFN β

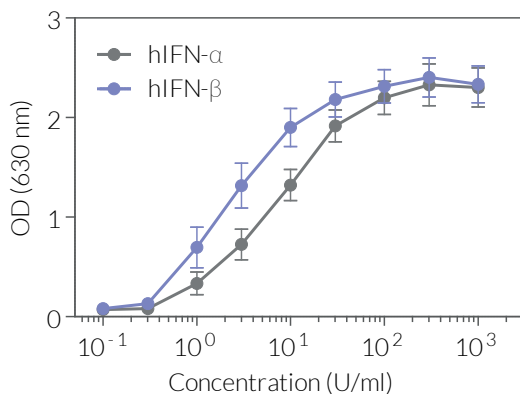


Figure 1. Dose-response of HEK-Blue™ IFN- α / β cells to recombinant type I IFNs. Cells were stimulated with increasing concentrations of recombinant human IFN- α (hIFN- α) and IFN- β . After overnight incubation, the ISGF3 response was determined using QUANTI-Blue™ Solution, a SEAP detection reagent. The optical density (OD) at 630 nm is shown as mean \pm SEM.

Cell line specificity

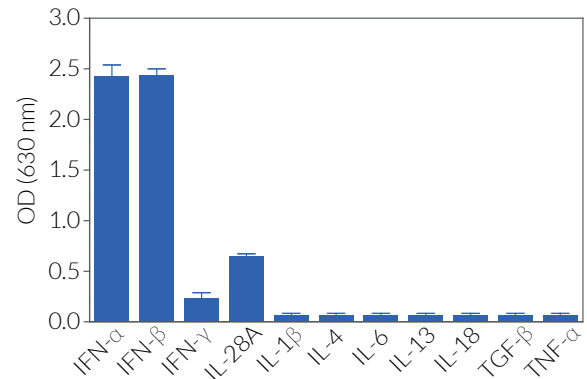


Figure 2. Response of HEK-Blue™ IFN- α / β cells to a panel of cytokines. Cells were stimulated with various human recombinant cytokines: 1000 U/ml IFN- α or IFN- β , 300 ng/ml IFN- γ , 10 ng/ml IL-28 or TGF- β , and 100 ng/ml IL-1 β , IL-4, IL-6, IL-13, IL-18 or TNF- α . After overnight incubation, SEAP activity was assessed using QUANTI-Blue™ Solution. The optical density (OD) at 630 nm is shown as mean \pm SEM.

Neutralization of IFN- α response with Anti-hIFN α

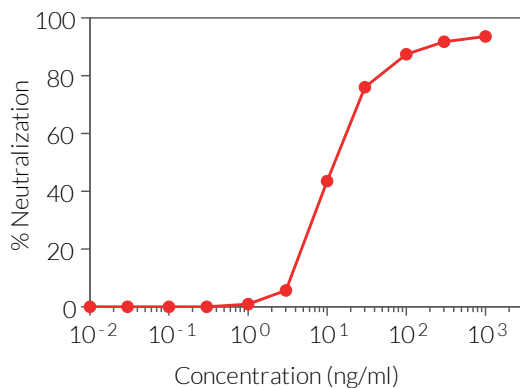


Figure 3. Dose-dependent inhibition of HEK-Blue™ IFN- α / β cell response using Anti-IFN- α IgG. A serial dilution of Anti-IFN- α was incubated with 500 U/ml of recombinant human IFN- α 2 for 30 minutes prior to the addition of the HEK-Blue™ IFN- α / β cells. After overnight incubation, the ISGF3 response was determined using QUANTI-Blue™ Solution, a SEAP detection reagent. Data are presented as percentage of neutralization (mean).

TECHNICAL SUPPORT

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