

Validation data for recombinant human IL-23

<https://www.invivogen.com/cytokines-human-il-23-recombinant-protein>

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Interleukin 23 (IL-23) is a pro-inflammatory cytokine from the IL-12 cytokine receptor family that contributes to the differentiation of the Th17 helper subset. This cytokine comprises two subunits: a specific IL-23p19 subunit and a common IL-12p40 subunit shared with IL-12. Its size and purity was assessed using SDS-PAGE (Figure 1). The biological activity of IL-23 is confirmed using HEK-Blue™ IL-23 cells featuring a STAT3-inducible SEAP reporter (Figure 2). Recombinant human IL-23 can be used together with HEK-Blue™ IL-23 cells for the screening of inhibitory molecules, such as Ustekinumab, a human IgG1 monoclonal antibody targeting the IL-12p40 subunit (Figure 3).

Human IL-23 SDS-PAGE analysis

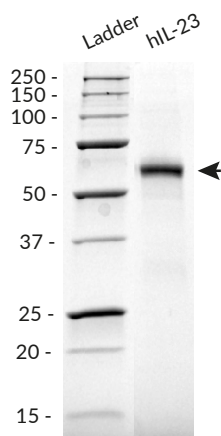


Figure 1. SDS-PAGE analysis of the recombinant human (h)IL-23. 1 µg of hIL-23 was loaded on a 12% Mini-PROTEAN® TGX Stain-Free™ Precast Gel (Bio-Rad). Detection was performed as per the manufacturer's instructions. A band was detected at ~61 kDa.

Cellular response to human IL-23

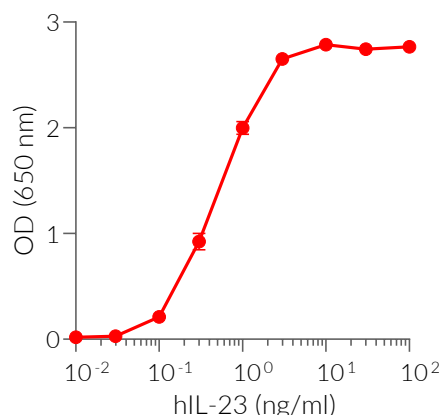


Figure 2. Dose-response of HEK-Blue™ IL-23 cells to recombinant human (h)IL-23. Cells were stimulated with increasing concentrations of recombinant human IL-23. After overnight incubation, the STAT3-induced SEAP activity was determined using QUANTI-Blue™, a SEAP detection reagent. Data are shown as optical density (OD) at 650 nm (mean ± SEM).

Neutralization of hIL-23 signaling using Ustekinumab

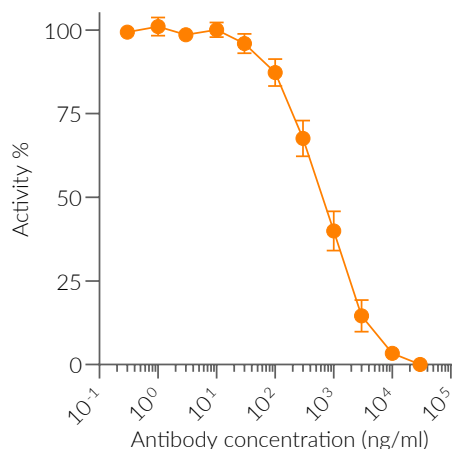


Figure 3. Dose-dependent inhibition of IL-23 signaling using Ustekinumab biosimilar. Increasing concentrations of Anti-hIL-12/IL-23-p40-hIgG1 (0.3 ng/ml to 30 µg/ml) were incubated with recombinant human (h)IL-23 (300 pg/ml) for 1 h before the addition of HEK-Blue™ IL-23 cells. After overnight incubation, SEAP activity in the cell culture supernatant was assessed using QUANTI-Blue™ Solution. Data are shown in percentage of activity (%) (mean ± SEM).

TECHNICAL SUPPORT

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