

# Anti-hIL-12/IL-23-p40-hIgG1

Recombinant human monoclonal IgG1 antibody against human IL-12 and IL-23

Catalog codes: hil12p40-mab1, hil12p40-mab1-03

<https://www.invivogen.com/anti-human-il-12-il-23-p40-ustekinumab-biosimilar-antibody>

For research use only

Version 24L10-AK

## PRODUCT INFORMATION

**Contents:** Anti-hIL-12/IL-23-p40-hIgG1 purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

hil12p40-mab1: 100 µg

hil12p40-mab1-03: 300 µg (3 x 100 µg)

**Target:** Human interleukin 12 (IL-12), Human IL-23

**Clone:** Ustekinumab

**CAS number:** 815610-63-0

**Source:** Chinese hamster ovary (CHO) cells

**Isotype:** Human IgG1, kappa

**Purification:** By affinity chromatography with protein A

**Formulation:** 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose and stabilizing agents

**Applications:** ELISA, neutralization assays

### Antibody resuspension (0.1 mg/ml)

*Note: Ensure you see the lyophilized pellet before resuspension.*

Resuspend Anti-hIL-12/IL-23-p40-hIgG1 with sterile water:

Add 1 ml of sterile water per 100 µg vial.

### Storage and stability

- Product is shipped at room temperature. Upon receipt, store at -20 °C.
- Reconstituted antibody is stable for up to 1 month at 4 °C and for up to 1 year at -20 °C. Avoid repeated freeze-thaw cycles.

### Quality control

- The blockage of recombinant human IL-12 and recombinant human IL-23-dependent signaling by Anti-hIL-12/IL-23-p40-hIgG1 has been validated using cellular assays and flow cytometry.
- The complete sequence of the antibody has been verified.
- Absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

## PRODUCT DESCRIPTION

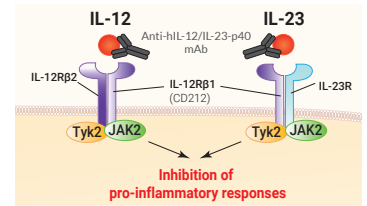
Anti-hIL-12/IL-23-p40-hIgG1 is the biosimilar of the therapeutic monoclonal antibody (mAb) Ustekinumab. It features the variable region which targets the shared p40 subunit of the interleukins IL-12 and IL-23 and the human IgG1 constant region.

Anti-hIL-12/IL-23-p40-hIgG1 was generated by recombinant DNA technology, produced in CHO cells, and purified by affinity chromatography with protein A.

## BACKGROUND

**Ustekinumab** is a fully human IgG1 monoclonal antibody (mAb) targeting the shared p40 subunit of interleukin 12 (IL-12) and IL-23<sup>1</sup>. These cytokines are critical in driving inflammatory and autoimmune responses associated with various diseases<sup>1-2</sup>. By binding

to the p40 subunit, Ustekinumab blocks the interaction of IL-12 and IL-23 with the IL-12 receptor β1 (IL-12Rβ1 or CD212) found on the surface of natural killer cells and T cells<sup>1</sup>. Importantly, Ustekinumab does not bind to endogenous IL-12 or IL-23 already complexed with the receptor, making it unlikely to mediate IgG1-dependent Fc effector functions, such as antibody-dependent cellular cytotoxicity (ADCC) or complement-dependent cytotoxicity (CDC). By blocking IL-12- and IL-23-dependent pathways, Ustekinumab suppresses the activation and differentiation of CD4+ T cells and inhibits Th1 and Th17 signaling cascades, leading to a significant reduction in inflammation<sup>1-2</sup>. Ustekinumab is FDA-approved for the treatment of moderate to severe plaque psoriasis, psoriatic arthritis, Crohn's disease, and ulcerative colitis<sup>3</sup>



1. Benson, J.M, et al., 2011. Discovery and mechanism of ustekinumab: a human monoclonal antibody targeting interleukin-12 and interleukin-23 for treatment of immune-mediated disorders. *MAbs* 3(6):535-545. 2. Montepaone M, et al. 2014. Profile of ustekinumab and its potential in the treatment of active psoriatic arthritis. *Open Access Rheumatol.* ;6:7-13. 3. FDA website accessed in Nov 2024: [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2024/761044s013lbl.pdf#page=37](https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761044s013lbl.pdf#page=37)

## RELATED PRODUCTS

Product	Catalog Code
HEK-Blue™ IL-12 cells	hkb-il12
HEK-Blue™ IL-23 cells	hkb-il23
Recombinant human IL-12	rcyc-hil12
Anti-β-Gal-hIgG1	bgal-mab1

## TECHNICAL SUPPORT

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