DESCRIPTION

Species Reactivity: Human

Specificity: Detects human IL-23 p19 in direct ELISA and Western blot. In direct ELISA, approximately 50% cross-reactivity with recombinant canine IL-23p19, less than 25% cross-reactivity with recombinant feline IL-23p19, less than 5% cross-reactivity with recombinant mouse IL-23p19, recombinant human IL-12p40, and recombinant rat IL-23p40 is observed.

Source: Polyclonal Goat IgG

Purification: Antigen Affinity-purified

Immunogen: E. coli-derived recombinant human IL-23 p19

Accession # AAG37232

Endotoxin Level: <0.10 EU per 1 μg of the antibody by the LAL method.

Formulation: Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

*Small pack size (SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Recommended Concentration:

<table>
<thead>
<tr>
<th>Sample</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>1 μg/mL</td>
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<tr>
<td>Neutralization</td>
<td>See Below</td>
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Neutralization: Measured by its ability to neutralize IL-23-induced IL-17 secretion in mouse splenocytes. Aggarwal, S. et al. (2003) J. Biol. Chem. 278:1910. The Neutralization Dose (ND_{50}) is typically 0.2-0.8 μg/mL in the presence of 0.75 ng/mL Recombinant Human IL-23 and 10 ng/mL Recombinant Mouse IL-2.

DATA

IL-17 Secretion Induced by IL-23 and Neutralization by Human IL-23 Antibody. In the presence of Recombinant Mouse IL-2 (10 ng/mL, Catalog # 402-M1), Recombinant Human IL-23 (Catalog # 1290-L) stimulates IL-17 secretion in mouse splenocytes in a dose-dependent manner (orange line), as measured by the Mouse IL-17 Quantikine ELISA Kit (Catalog # M1700). Under these conditions, IL-17 secretion elicited by Recombinant Human IL-23 (0.75 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-23 p19 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1716). The ND_{50} is typically 0.2-0.8 μg/mL.

Detection of human IL-23 p19 by Western Blot. Western blot shows lysates of a CHO cell line transfected with human IL-23. A PVDF membrane was probed with 1 μg/mL of Goat Anti-Human IL-23 p19 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1716) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for IL-23 p19 at approximately 21 kDa (as indicated). This experiment was conducted under reducing conditions and using Immobilon® Blot Group 1.

PREPARATION AND STORAGE

Reconstitution: Reconstitute at 0.2 mg/mL in sterile PBS.

Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

*Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C.

Stability & Storage: Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.
Interleukin 23 (IL-23) is a heterodimeric cytokine composed of two disulfide-linked subunits, a p19 subunit that is unique to IL-23, and a p40 subunit that is shared with IL-12. The p19 subunit has homology to the p35 subunit of IL-12, as well as to other single chain cytokines such as IL-6 and IL-11. The p40 subunit is homologous to the extracellular domains of the hematopoietic cytokine receptors. Human p19 cDNA encodes a 189 amino acid residue (aa) precursor protein with a putative 19 aa signal peptide and 170 aa mature protein. Human and mouse p19 share 70% aa sequence identity. Although p19 is expressed by activated macrophages, dendritic cells, T cells, and endothelial cells, only activated macrophages and dendritic cells express p40 concurrently to produce IL-23. The functional IL-23 receptor complex consists of two receptor subunits, the IL-12 receptor beta 1 subunit (IL-12 Rβ1) and the IL-23-specific receptor subunit (IL-23 R). IL-23 has biological activities that are similar to, but distinct from IL-12. Both IL-12 and IL-23 induce proliferation and IFN-γ production by human T cells. While IL-12 acts on both naïve and memory human T cells, the effects of IL-23 is restricted to memory T cells. In mouse, IL-23 but not IL-12, has also been shown to induce memory T cells to secrete IL-17, a potent proinflammatory cytokine. IL-12 and IL-23 can induce IL-12 production from mouse splenic DC of both the CD8+ and CD8- subtypes, however only IL-23 can act directly on CD8+ DC to mediate immunogenic presentation of poorly immunogenic tumor/self peptide.