

**DESCRIPTION**

|                           |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Mouse   |
| <b>Specificity</b>        | Detects mouse IL-23 in ELISAs and Western blots. This antibody recognizes an epitope in the p19 subunit. In ELISAs, this antibody does not cross-react with recombinant mouse (rm) IL-23 R, rmlIL-12 R $\beta$ , rmlIL-12 p35, recombinant human (rh) IL-23, rhIL-23 p19, recombinant rat IL-12, rmlIL-12 p40, rmlIL-12 p40 homodimer, or rmlIL-12. |
| <b>Source</b>             | Monoclonal Rat IgG <sub>2A</sub> Clone # 320234   |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant mouse IL-23   |
| <b>Formulation</b>        | Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m 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.

|   | <b>Recommended Concentration</b> | <b>Sample</b>  |
|---|----------------------------------|--|
| <b>Western Blot</b>                     | 1 $\mu$ g/mL                     | Recombinant Mouse IL-23 (Catalog # 1887-ML)                    |
| <b>Mouse IL-23 Sandwich Immunoassay</b> |                                  | <b>Reagent</b>   |
| <b>ELISA Capture</b>                    | 2-8 $\mu$ g/mL                   | Mouse IL-23 Antibody (Catalog # MAB1887)                       |
| <b>ELISA Detection</b>                  | 0.1-0.4 $\mu$ g/mL               | Mouse IL-12/IL-23 p40 Biotinylated Antibody (Catalog # BAF499) |
| <b>Standard</b>                         |                                  | Recombinant Mouse IL-23 (Catalog # 1887-ML)                    |

**PREPARATION AND STORAGE**

|                                |  |
|--------------------------------|--|
| <b>Reconstitution</b>          | Reconstitute at 0.5 mg/mL in sterile PBS.  |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C   |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

**BACKGROUND**

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 (1-5). 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. Mouse p19 cDNA encodes a 196 amino acid residue (aa) precursor protein with a putative 19 aa signal peptide and 177 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 R $\beta$ 1) 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- $\gamma$  production by human T cells. While IL-12 acts on both naive 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 pro-inflammatory cytokine. IL-12 and IL-23 can induce IL-12 production from mouse splenic DC of both the CD8<sup>-</sup> and CD8<sup>+</sup> subtypes, however only IL-23 can act directly on CD8<sup>+</sup> DC to mediate immunogenic presentation of poorly immunogenic tumor/self peptide.

**References:**

1. Oppmann, B. *et al.* (2000) *Immunity* **13**:715.
2. Lankford, C.S. and D.M. Frucht (2003) *J. Leukoc. Biol.* **73**:49.
3. Parham, C. *et al.* (2002) *J. Immunol.* **168**:5699.
4. Belladonna, M.L. *et al.* (2002) *J. Immunol.* **168**:5448.
5. Aggarwal, S. *et al.* (2003) *J. Biol. Chem.* **278**:1910.