Mouse IL-23 Antibody

Monoclonal Rat IgG_{2A} Clone # 320234

Catalog Number: MAB1887

DESCRIPTION

Species Reactivity	Mouse
Specificity	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 p19, rmIL-23 R, rmIL-12 Rβ, rmIL-12 p35, recombinant human (rh) IL-23, rhIL-23 p19, recombinant rat IL-12, rmIL-12 p40, rmIL-12 p40 homodimer, or rmIL-12.
Source	Monoclonal Rat IgG_{2A} Clone # 320234
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant mouse IL-23
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 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	Sample
Western Blot	1 µg/mL	Recombinant Mouse IL-23 (Catalog # 1887-ML)
Mouse IL-23 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Mouse IL-23 Antibody (Catalog # MAB1887)
ELISA Detection	0.1-0.4 µg/mL	Mouse IL-12/IL-23 p40 Biotinylated Antibody (Catalog # BAF499)
Standard		Recombinant Mouse IL-23 (Catalog # 1887-ML)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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.

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 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 secret IL-17, a potent pro-inflammatory cytokine. IL-12 and IL-23 can induce IL-12 production from mouse splenic DC of both the $CD8^-$ and $CD8^+$ subtypes, however only IL-23 can act directly on $CD8^+$ 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.