Human IL-23 p19 Antibody

Monoclonal Mouse IgG_{2B} Clone # 727753

Catalog Number: MAB17161

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-23 p19 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant human (rh) IL-23 heterodimer is observed, less than 10% cross-reactivity with recombinant mouse (rm) IL-23 heterodimer is observed, and no cross-reactivity with recombinant feline IL-23 p19, recombinant canine (rca) IL-23 p19, and recombinant rat IL-23 p19 is observed.. In Western blots, no cross-reactivity with rcaIL-23 p19 or rmIL-23 p19 is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 727753
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human IL-23 p19 Arg20-Pro189 Accession # Q9NPF7
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.

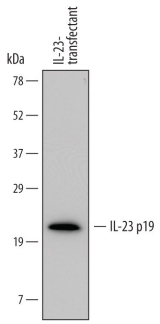
APPLICATIONS

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	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below

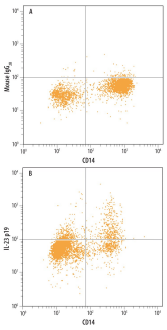
DATA

Western Blot



Detection of Human IL-23 p19 by Western Blot. Western blot shows lysates of CHO Chinese hamster ovary cell line transfected with human IL-23. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human IL-23 p19 Monoclonal Antibody (Catalog # MAB17161) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for IL-23 p19 at approximately 21 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Intracellular Staining by Flow Cytometry



Detection of IL-23 p19 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were treated for 24 hours with 1 µg/mL LPS, then stained with Mouse Anti-Human IL-23 p19 Monoclonal Antibody (Catalog # MAB17161) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B) and Mouse Anti-Human CD14 PE-conjugated Monoclonal Antibody (Catalog # FAB3832P). Quadrant markers were set based on control antibody staining (Catalog # MAB0041). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
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. 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 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.

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.