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Product Data Sheet

Recombinant Human IL-23 (carrier-free)

Catalog # / Size: 574102 / 10 µg

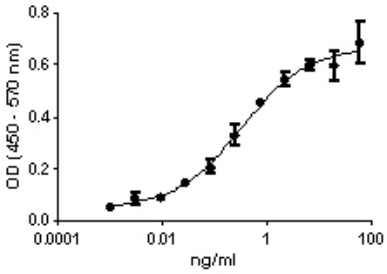
Source: Human IL-23 consists of two subunits linked via a disulfide bond: P19 (Accession# NP_057668: Ala21- Pro189) and P40 (Accession# NP_002178.2: Ile 23-Ser 328). Human IL-23 was expressed in insect cells.

Molecular Mass: The total predicted molecular weight is 53.3 Da. The non-reduced protein migrates at approximately 60 kD and the DTT-reduced protein produces two bands at approximately 19 kD and 40 KD by SDS-PAGE.

Purity: >95%, as determined by Coomassie stained SDS-PAGE.

Endotoxin Level: Less than 0.01 ng per µg cytokine as determined by the LAL method.

Activity: ED_{50}=0.2 - 0.8 ng/ml, corresponding to a specific activity of 5 - 1.25 x 10^6 units/mg as determined by mouse splenocyte IL-17A secretion, which is induced by hIL-23 in a dose dependent manner.



Mouse splenocytes IL-17A secretion induced by human IL-23. Bioassay activity for human IL-23.

Preparation: 10 µg size is bottled at 100 µg/mL.

Formulation: 0.22 µm filtered protein solution is in PBS.

Storage: Unopened vial can be stored at -20°C for six months or at -70°C for one year. For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in buffer containing carrier protein such as 1% BSA or HSA or 10% FBS. After dilution, the cytokine can be stored at 4°C for one month or -20°C to -70°C for up to 3 months. **Avoid repeated freeze/thaw cycles**.

Applications:

Applications: Bioassay

Description: Interleukin 23 (IL-23) is a member of the IL-6 family of cytokines, and it is comprised of two subunits, p19 and p40. The p19/p40 heterodimer is stabilized by a disulfide bond. The p40 subunit is shared by IL-23 and IL-12 cytokines. p19 mRNA is expressed in endothelial cells and polarized T cells; p40 is not expressed by these cells. Therefore, the availability of functional IL-23 is limited by the expression of p40 and not p19. IL-23 exerts its biological activities through the interaction with a heterodimeric receptor complex composed of IL-12Rb1 and IL-23R. IL-23 activates Janus kinase (JAK)/signal transducer and activator of transcription (STAT) signaling molecules. JAK2 is constitutively associated with the IL-23R chain, and binding of IL-23 to its receptor leads to phosphorylation of STAT1, STAT3, STAT4, and STAT5.

Antigen References:

1. Oppmann B, *et al.* 2000. *Immunity* 13:715.
2. Aggarwal S, *et al.* 2003. *J. Biol. Chem.* 278:1910.
3. Piskin G, *et al.* 2006. *J. Immunol.* 176:1908.
4. McGeachy MJ, *et al.* 2007. *Nat. Immunol.* 8:1390.
5. Wilson NJ, *et al.* 2007. *Nat. Immunol.* 8:950.
6. Bonifac B, *et al.* 2008. *Immunol. Rev.* 226:132.
7. Chizzolini C, *et al.* 2008. *Blood* 112:3696.
8. Buonocore S, *et al.* 2010. *Nature* 464:1371.

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