Human IL-23 alpha & Mouse IL-12 beta Heterodimer Protein (HEK293, His-Avi)

Cat. No.:	HY-P77712
Synonyms:	IL23 alpha; IL12 beta; IL23 alpha&IL12 beta
Species:	Human;Mouse
Source:	HEK293
Accession:	Q9NPF7 (I20-P189)&P43432 (M23-S335)
Gene ID:	51561&16160
Molecular Weight:	Approximately 22 kDa

PROPERTIES

Biological Activity	Immobilized Human IL-23 alpha&Mouse IL-12 beta, His Tag at 5μg/ml (100μl/Well) on the plate. Dose response curve for Human IL-23R, mFc Tag with the EC_{50} of 0.33μg/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	IL-23 alpha and IL-12 beta, also known as IL23p19 and IL12p40, respectively, and composing IL-23 in a heterodimerization manner, exerts proinflammatory effects and promotes angiogenesis[1][5]. IL-23 belongs to the IL-12 cytokine family together with IL-12 p35/p40, IL-27 EBI3/p28 and IL-35 EBI3/p35, and is produced by various immune cells such as dendritic cells and macrophages upon Toll-like receptor signaling in tissues[3]. IL-23 has a preference expression on memory CD4(+) T cells, and activates the Jak-Stat signaling cascade. IL-23 leads to IL-23 receptor phosphorylation and forms a docking site to trigger phosphorylation signal of STAT3 and STAT4[1]. IL-23 is a key factor perpetuating Th17 cell activation and cytokine production by binding IL-23 receptor to produce Th17 cytokines such as IL17 A, IL-17 F and IL-22[2]. IL-23 also acts function on natural killer cells, results interferon-γ secretion increasing and enhances antibody-dependent cellular cytotoxicity[4]. The sequence of amino acids in IL-23 alpha proteins of mouse shows moderately high similarity with rat (87.76%) and is very different from human (74.60%) or cynomolgus (74.60%), while the sequence of IL-12 beta proteins of human is very different

from human (69.04%) and shows high similarity with rat (92.24%).
IL-23 facilitates development of inflammation in numerous other models of immune pathology where IL-12 had previously been implicated, including models of arthritis,intestinal inflammation, and psoriasis[6][7][8].

REFERENCES

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