

Human IL-12p70 ELISpot Kit

PRODUCT SPECIFICATIONS

Catalogue N°	856.081.001PC - 1 x 96 Discovery (pre-coated plate) 856.081.002PC - 2 x 96 (pre-coated plates) 856.081.005PC - 5 x 96 (pre-coated plates)
Target species	Human
Specificity	Recognizes natural human IL-12. Specific to p70 heterodimer.
Incubation	3h after cell stimulation
Cross Reaction	No cross reactivity with other human cytokines
Kit Content	Diaclone Pre-coated ELISpot kits include precoated PVDF plates, Detection antibody, Alkaline phosphatase conjugate, BSA, BCIP/NBT ready-to-use substrate buffer.
Synonym	IL-12

REFERENCES

Correale J. and Fiol M., Neurology, 2004; 63(12): 2363 - 2370 - [Pubmed link](#) 

Correale, J. et al., Neurology, 2006; 67(4): 652-9. - [Pubmed link](#) 

BACKGROUND

IL-12 is a potent regulator of cell mediated immune response produced by activated monocytes / macrophages cells, B lymphocytes and connective tissue type mast cells.

IL-12p70 is the biologically active form and is composed of two subunits: IL-12p35 (also named IL-12A) and IL-12p40 (also named IL-12B). The p35 subunit has homology to IL-6, while p40 has homology with IL-23. The p40 subunit has been found to be expressed in a higher excess over p70. It is present in serum and plasma as a monomer, as an heterodimer with IL-12p35 (biologically active IL-12p70) or a heterodimer with IL-23p19 (IL-23). The subunits are genetically unrelated and are regulated independently: IL-12p40 is produced constitutively and in excess of IL-12p35 and IL-23p19.

IL-12 has been found to bind to IL-12R. IL-12R has been reported to be present on IL-2 activated CD4+, CD8+ and CD56+ cells. IL-12 exerts a variety of biological effects on human T and NK cells. IL-12 induces an IFN γ production and other cytokines from peripheral blood T and NK cells. Its role is directing development and proliferation of Th1 cells. Thus IL-12 is linked with autoimmunity, high level have also been reported for chronic inflammatory reactions, bacterial and viral infection.

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IL-12 is a pleiotropic cytokine initially also called cytotoxic lymphocyte maturation factor (CLMF) or natural killer cell stimulatory factor (NKSF) mainly produced by monocytes, macrophages and dendritic cells in response to bacterial products or upon interaction with activated T Cell.

IL-12 induces IFN γ production and increases proliferation and cytotoxic activity of T and NK cells. Moreover, IL-12 induces CD4 $^{+}$ polarization to the Th1 phenotype that mediates immunity against intracellular pathogens.

Several studies show that IL-12p40, in monomer or homodimer form, was able to bind to IL-12R beta-1 and seem to be antagonist to IL-12p70 and IL-23 bounding.

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