

Human IL-10 ELISpot Kit

PRODUCT SPECIFICATIONS

Catalogue N°	856.031.001PC - 1 x 96 Discovery (pre-coated plate) 856.031.002PC - 2 x 96 (pre-coated plates) 856.031.005PC - 5 x 96 (pre-coated plates)
Target species	Human
Specificity	Recognizes natural human IL-10
Incubation	3h after cell stimulation
Cross Reaction	No cross reactivity with other human cytokines. Cross reactivity with simian IL-10. No cross reactivity with viral IL-10.
Kit Content	Diaclone Pre-coated ELISpot kits include precoated PVDF plates, Detection antibody, Alkaline phosphatase conjugate, BSA, BCIP/NBT ready-to-use substrate buffer.

REFERENCES

Bain C. et al., J. Virol., 2004; 78(19):10460 - 10469 - [Pubmed link](#)

Hudak, S. et al., J Immunol., 2002; 169(3): 1189-96. - [Pubmed link](#)

BACKGROUND

Interleukin-10 is a pleiotropic cytokine playing an important role as a regulator of lymphoid and myeloid cell function. Due to the ability of IL-10 to block cytokine synthesis and several accessory cell functions of macrophages, this cytokine is a potent suppressor of the effector functions of macrophages, T-cells and NK cells.

In addition, IL-10 participates in regulating proliferation and differentiation of B-cells, mast cells and thymocytes. The primary structure of human IL-10 has been determined by cloning the cDNA encoding the cytokine. The corresponding protein exists at 160 amino acids with a predicted molecular mass of 18.5 kDa. Based on its primary structure, IL-10 is a member of the four-helix bundle family of cytokines. In solution human IL-10 is a homodimer with an apparent molecular mass of 39 kDa. Although it contains an N-linked glycosylation site, it lacks detectable carbohydrates. Recombinant protein expressed in E. coli thus retains all known biological activities.

The human IL-10 gene is located on chromosome 1 and is present as a single copy in the genome. The human IL-10 exhibits strong DNA and amino acid sequence homology to the murine IL-10 and an open reading frame in the Epstein-Barr virus genome, BCRF1 which shares many of the cellular cytokine's biological activities and may therefore play a role in the host-virus interaction.

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The immunosuppressive properties of IL-10 suggest a possible clinical use of IL-10 in suppressing rejections of grafts after organ transplantations. IL-10 can furthermore exert strong anti-inflammatory activities.

IL-10 in disease

IL-10 expression was shown to be elevated in parasite infections like in *Schistosoma mansoni*, *Leishmania*, *Toxoplasma gondii* and *Trypanosoma* infection.

Furthermore, high IL-10 expression was detected in mycobacterial infections as shown for *Mycobacterium leprae*, *Mycobacterium tuberculosis* and *Mycobacterium avium* infections.

High expression levels of IL-10 are also found in retroviral infections inducing immunodeficiency.

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