

Human CXCL10 / IP10 protein, His tag (active)

Cat. No. GTX00242-pro

Applications	Functional Assay
Species	Human

Package

10 µg

Applications

Application Note

Interferon gamma-induced protein 10 (IP10) also known as C-X-C motif chemokine 10 (CXCL10) or small-inducible cytokine B10 is an 8.7 kDa protein that in humans is encoded by the CXCL10 gene. C-X-C motif chemokine 10 is a small cytokine belonging to the CXC chemokine family. IP10 secreted by several cell types in response to IFN-γ, has been attributed to several roles, such as chemoattraction for monocytes/macrophages, T cells, NK cells, and dendritic cells, promotion of T cell adhesion to endothelial cells, antitumor activity, and inhibition of bone marrow colony formation and angiogenesis. Besides, Insulin Like Growth Factor Binding Protein 7 (IGFBP7) has been identified as an interactor of IP10, thus a binding ELISA assay was conducted to detect the interaction of recombinant human IP10 and recombinant human IGFBP7. Briefly, VDR were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to IGFBP7-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-IP10 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µl stop solution to the wells and read at 450nm immediately. The binding activity of IP10 and IGFBP7 was in a dose dependent manner.

Chemotaxis assay used 24-well microchemotaxis system was undertaken to detect the chemotactic effect of IP10 on the Raji cell line. Briefly, Raji cells were seeded into the upper chambers (150 µl cell suspension, 1x10⁶ cells/ml in RPMI-1640 with FBS free) and IP10 (1 ng/ml, 10 ng/ml, 100 ng/ml and 1000 ng/ml diluted separately in serum free RPMI-1640) was added in lower chamber with a polycarbonate filter (8µm pore size) used to separate the two compartments. After incubation at 37°C with 5% CO₂ for 2h, the filter was removed, then cells in low chamber were observed by inverted microscope at low magnification (×100) and the number of migrated cells were counted at high magnification (×400) randomly. And IP10 is able to induce migration of Raji cells. The migrated Raji cells in low chamber at low magnification (×100) randomly, and the migrated cells were counted at high magnification (×400). The optimum chemotaxis of IP10 occurs at 10-100 ng/ml.

Observed MW (kDa)	13 kDa.
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Properties

Form	Lyophilized powder
Buffer	Reconstitute with 20mM Tris and 150mM NaCl to 0.1-1.0mg/ml. Do not vortex. Lyophilized from 20mM Tris, 150mM NaCl, 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose.
Preservative	ProClin 300
Storage	For short-term storage (1-2 weeks), store at 4°C. For long-term storage, store at -20°C or below. After reconstitution, keep as concentrated solution. Avoid freeze-thaw cycles.
Region/Sequence	N-terminal His-Tag; Val22~Pro98 (NP_001556.2)
Expression System	E. coli
Purity	> 95%
Endotoxin	< 1 EU/µg
Conjugation	Unconjugated

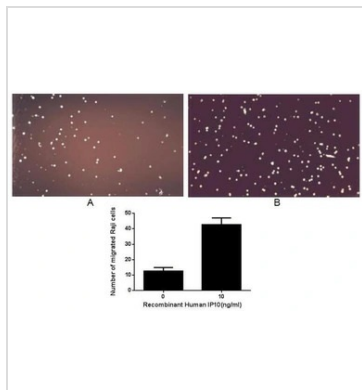


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Note

For laboratory use only. Not for any clinical, therapeutic, or diagnostic use in humans or animals. Not for animal or human consumption.

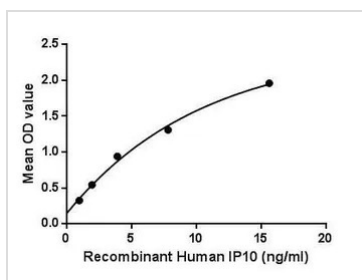
DATA IMAGES

GTX00242-pro Functional Assay Image

The chemotactic effect of GTX00242-pro Human CXCL10 / IP10 protein (active).

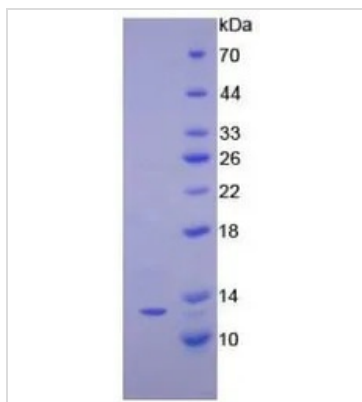
Upper: (A) Raji cells were seeded into the upper chambers and serum free RPMI-1640 without IP10 was added in lower chamber, then cells in lower chamber were observed at low magnification ($\times 100$) after incubation for 2hrs.

(B) Raji cells were seeded into the upper chambers and serum free RPMI-1640 with 10 ng/ml IP10 was added in lower chamber, then cells in lower chamber were observed at low magnification ($\times 100$) after incubation for 1hr.

Lower: The number of migrated cells were counted at high magnification ($\times 400$) randomly (five fields for each filter).


GTX00242-pro Functional Assay Image

Functional ELISA analysis of GTX00242-pro Human CXCL10 / IP10 protein (active) which can bind immobilized IGFBP7 protein.


GTX00242-pro Image

SDS-PAGE analysis of GTX00242-pro Human CXCL10 / IP10 protein (active).



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