BOSTER BIOLOGICAL TECHNOLOGY
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Anti-Interleukin-4 IL4 Antibody Picoband®

Catalog Number: RP1009

About IL4

Interleukin-4 (IL-4), also knowns as a B-cell stimulatory factor1 (BSF1), is an immunomodulatory cytokine, which can inhibit the growth of tumour cells.1 The human cDNA contains a single open reading frame encoding a protein of 153 amino acids, including a putative signal peptide. IL-4 may act as an autocrine growth factor in pancreatic cancer cells and also give rise to the possibility that cancer-derived IL-4 may suppress cancer-directed immunosurveillance in vivo in addition to its growth-promoting effects, thereby facilitating pancreatic tumor growth and metastasis.1 The mouse and human genes and their protein products show structural and functional similarities. The human IL-4 gene, which occurs as a single copy in the haploid genome, is mapped on chromosome 5.2 The standard product used in this kit is recombinant human IL-4, consisting of 130 amino acids with the molecular mass of 14KDa.

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Overview

Product Name	Anti-Interleukin-4 IL4 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-Interleukin-4 IL4 Antibody catalog # RP1009. Tested in ELISA, IHC, WB applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. Carrier free (No BSA) form available in stock. If you want this antibody carrier free please specify "Carrier Free" or "No BSA" in your order note.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P05112

Technical Details

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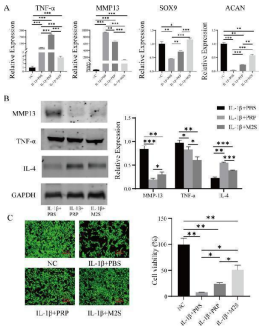
Immunogen	E. coli-derived human IL-4 recombinant protein (Position: H25-S153).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human ELISA, 0.1-0.5ug/ml, - Western blot, 0.1-0.5ug/ml, Human

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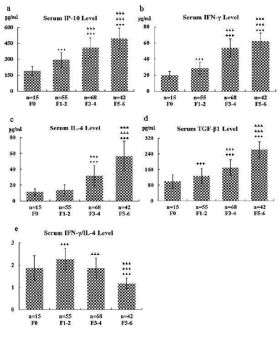
Anti-Interleukin-4 IL4 Antibody Picoband® (RP1009) Images



Figure. Western blot analysis of IL-4 using anti-IL-4 antibody (RP1009). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane: Recombinant Human IL-4 Protein 0.5ng, After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-IL-4 antigen affinity purified polyclonal antibody (Catalog # RP1009) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for IL-4 at approximately 14KD. The expected band size for IL-4 is at 14KD.



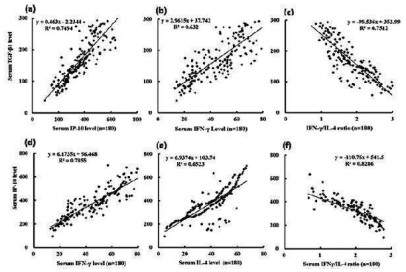
Protective effect of M2 macrophages induced by hUCMSCs-EVs on OA chondrocytes in vitro. A IL-1beta-induced OA chondrocytes were co-cultured with the supernatant of M2 macrophages (M2S) induced by hUCMSCs-EVs, or platelet-rich plasma (PRP) for 48 h, relative mRNA expression of the key genes TNF-alpha, MMP13, SOX9, and ACAN was measured by quantitative RT-PCR analysis; the experiment was performed triplicate; *p < 0.05, **p < 0.01, ***p < 0.001. B Western blot was performed to evaluate the expression of TNF-alpha, MMP13, and IL-4 proteins in PBS, M2S, or PRP-treated OA chondrocytes; GAPDH was employed as the loading control; *p < 0.05, **p < 0.01, ***p < 0.001. C The influence of M2S or PRP on the viability of chondrocytes was detected by the cell live/death experiment; green represents live cells while red represents dead cells; Scale bar: 1 mm Index in PubMed under a CC BY license. PMID: 35057811



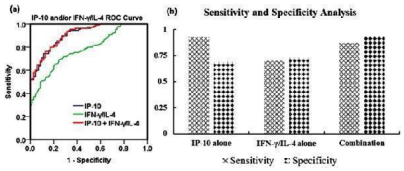
Serum levels of IP-10, IFN-gamma, IL-4, and TGF-beta1 as well as the IFN-gamma/IL-4 ratio in chronic hepatitis B patients with or without fibrosis. The levels of serum IP-10, IFN-gamma, IL-4, and TGF-beta1 in CHB patients with or without liver fibrosis were determined by ELISA, and the IFN-gamma/IL-4 ratio was calculated. ♦♦♦ Differs from controls (the F0 group), P < 0.05; ★ ★ ★ differs from mild or minimal fibrosis (the F1–2 group), P < 0.05; ▲▲▲ differs from moderate fibrosis (the F3–4 group), P < 0.05. (a) IP-10; (b) IFN-gamma; (c) IL-4; (d) TGF-beta1; (e) the IFN-gamma/IL-4 ratio. Index in PubMed under a CC BY license. PMID: 28067328

Statistical analysis of the correlation between the serum

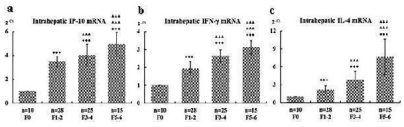
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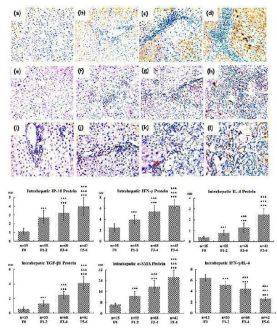
IP-10 level or the IFN-gamma/IL-4 ratio with liver fibrosis among chronic hepatitis B patients. Spearman's correlation analysis of the association between (a) IP-10; (b) IFN-gamma; (c) the IFN-gamma/IL-4 ratio and TGF-beta1. Spearman's correlation analysis of the association between serum (d) IFN-gamma; (e) IL-4; (f) the IFN-gamma/IL-4 ratio and IP-10. Index in PubMed under a CC BY license. PMID: 28067328



ROC curve analysis for evaluating the sensitivity and specificity of the IP-10 level, IFN-gamma/IL-4 ratio, or their combination to predict significant fibrosis among CHB patients. (a) ROC curve analysis for serum IP-10 (with the cut-of f value of 300 pg/mL), the serum IFN-gamma/IL-4 ratio (with the cut off value of 1.8), and the combination of IP-10 and the IFN-gamma/IL-4 ratio; (b) Specificity and sensitivity for IP-10, the IFN-gamma/IL-4 ratio, and their combination to predict significant liver fibrosis among patients with CHB. Index in PubMed under a CC BY license. PMID: 28067328



Intrahepatic mRNA levels of IP-10, IFN-gamma, and IL-4 in chronic hepatitis B patients with or without fibrosis. Real-time qRT-PCR was conducted to quantify the mRNA levels of intrahepatic IP-10, IFN-gamma, and IL-4 in the CHB patients without or with fibrosis as described in the Materials and Methods section. The relative mRNA levels of intrahepatic IP-10, IFN-gamma, and IL-4 were calculated by comparative Ct analysis after normalization for the quantity of GAPDH in the same samples and were represented as 2 - △ △ Ct values for controls (the F0 group), which were set equal 1. ♦♦♦ Differs from controls (the F0 group), $P < 0.05$; ★ ★ ★ differs from mild or minimal fibrosis (the F1–2 group), $P < 0.05$; ▲▲▲ differs from moderate fibrosis (the F3–4 group), $P < 0.05$. (a) IP-10; (b) IFN-gamma; (c) IL-4. Index in PubMed under a CC BY license. PMID: 28067328



Intrahepatic protein expression of IP-10, IFN-gamma, IL-4, TGF-beta1, and alpha-SMA as well as the IFN-gamma/IL-4 ratio in chronic hepatitis B patients with or without fibrosis. The protein expression of intrahepatic (a, b, c, and d) IP-10, (e, f, g, and h) IFN-gamma, and (i, g, k, and l) IL-4. In addition, the protein levels of intrahepatic IP-10, IFN-gamma, IL-4, TGF-beta1, and alpha-SMA were quantified based on the value of integrated optical density (IOD) and represented as histograms, from which the IFN-gamma/IL-4 ratio was calculated. ♦♦♦ Differs from controls (the F0 group), $P < 0.05$; ★ ★ ★ differs from mild or minimal fibrosis (the F1–2 group), $P < 0.05$; ▲▲▲ differs from moderate fibrosis (the F3–4 group), $P < 0.05$. Index in PubMed under a CC BY license. PMID: 28067328

4 Publications Citing This Product

1. PubMed ID: 25744647, Presti I, D'Orazio G, Labra M, La Ferla B, Mezzasalma V, Bizzaro G, Giardina S, Michelotti A, Tursi F, Vassallo M, Di Gennaro P. Appl Microbiol Biotechnol. 2015 Jul;99(13):5613-26. Doi: 10.1007/S00253-015-6482-8. Epub 2015 Mar 7. Evaluation Of The...

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2. PubMed ID: 23065188, Wang Yz, Feng Xg, Shi Qg, Hao Yl, Yang Y, Zhang Am, Kong Qx. Inflammation. 2013 Apr;36(2):337-45. Doi: 10.1007/S10753-012-9551-5. Silencing Of Mir155 Promotes The Production Of Inflammatory Mediators In Guillain-Barr?? Syndrome In Vitro.

3. PubMed ID: 25483698, Yan X, Wang D, Liang F, Fu L, Guo C. Hum Vaccin Immunother. 2014;10(12):3491-8. Doi: 10.4161/Hv.36084. Hpv16L1-Attenuated Shigella Recombinant Vaccine Induced Strong Vaginal And Systemic Immune Responses In Guinea Pig Model.

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