

Recombinant Human Interleukin-12

Alternate names:	IL12
Catalog No.:	PA1088
Quantity:	2 µg
Species:	Human
Source:	CHO cells, CHO (Chinese Hamster Ovarian Cells)
Format:	Purity: >95.5% Greater than 95.5% as determined by: (a) Analysis by RP-HPLC. (b) Anion-exchange FPLC. (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Dimers /aggregates: Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

Description: Interleukin 12 (IL-12) is a cytokine with important regulatory functions bridging innate and adaptive immunity. It has been proposed as an immune adjuvant for vaccination therapy of infectious diseases and malignancies. The inflammatory properties of IL-12 play an important role in the adjuvant. Interleukin 12 (IL-12) is a proinflammatory cytokine composed by two chains, p40 and p35. It plays a key role in the promotion of a Th1 immune response in the gastrointestinal mucosa. An enhanced expression of IL-12 mRNA in gastric mucosa has been reported in individuals infected by Helicobacter pylori. Recombinant Human IL-12 produced in CHO (Chinese Hamster Ovarian Cells) is a glycosylated disulfide linked heterodimeric polypeptide containing 503 amino acids and having a molecular weight of 75 kDa comprised of disulfide-bonded 35 kDa (p35) and 40 kDa (p40) subunits. The sequence of the first five N-terminal amino acids was determined and found to be Arg-Asn-Leu-Pro-Val at the p35 subunit and Ile-Trp-Glu-Leu-Lys at the p40 subunit. **Format:** This antigen is supplied as sterile filtered, white lyophilized powder. Recombinant Human Interleukin-12 is purified by proprietary chromatographic techniques. The protein (1 mg/ml) was lyophilized from PBS, pH7.4, and 10% sucrose. It is recommended to reconstitute the lyophilized IL-12 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm 2. Analysis by RP-HPLC, using a standard solution of IL-12 as a reference standard

Molecular weight: 75 kDa

Storage: Lyophilized IL-12 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IL-12 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Avoid multiple freeze-thaw cycles. Shelf life: one year from despatch.

- General Readings:**
1. Siddiqui F, Ehrhart EJ, Charles B, Chubb L, Li CY, Zhang X, et al. Anti-angiogenic effects of interleukin-12 delivered by a novel hyperthermia induced gene construct. *Int J Hyperthermia*. 2006 Nov;22(7):587-606. PubMed PMID: 17079216.
 2. Plewako H, Wosińska K, Arvidsson M, Björkander J, Håkansson L, Rak S. Production of interleukin-12 by monocytes and interferon-gamma by natural killer cells in allergic patients during rush immunotherapy. *Ann Allergy Asthma Immunol*. 2006 Oct;97(4):464-8. PubMed PMID: 17069100.
 3. Randomized phase II study of interleukin-12 in combination with rituximab in previously treated non-Hodgkin's lymphoma patients. *Clin Cancer Res* 2006 Oct 15;12(20 Pt 1):6056-63
 4. Duvic M, Sherman ML, Wood GS, Kuzel TM, Olsen E, Foss F, et al. A phase II open-label study of recombinant human interleukin-12 in patients with stage IA, IB, or IIA mycosis fungoides. *J Am Acad Dermatol*. 2006 Nov;55(5):807-13. Epub 2006 Sep 8. PubMed PMID: 17052486.
 5. Lee YS, Kim JH, Choi KJ, Choi IK, Kim H, Cho S, et al. Enhanced antitumor effect of oncolytic adenovirus expressing interleukin-12 and B7-1 in an immunocompetent murine model. *Clin Cancer Res*. 2006 Oct 1;12(19):5859-68. PubMed PMID: 17020994.
 6. Interleukin-12 and Th1 immune response in Crohn's disease: pathogenetic relevance and therapeutic implication. *World J Gastroen*