

Human Interferon- α 1 (hIFN- α 1)

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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MW (kDa):
18

UniProt ID:
#P01562

Entrez-Gene Id:
3439

Background

Interferon- α 1 is a member of the Type I IFN (1) family best known for their antiviral activity. Most nucleated cells produce one or more Type I IFNs in response to viral infection (2). Secreted Type I IFN then induces viral protective responses in neighboring non-infected cells. Type I IFNs also enhance virus-induced apoptosis (3). Other IFN- α 1 activities include enhancement of dendritic cell maturation and cytotoxic T cell activity (4). IFN- α 1 binds to the IFN- α R1 and IFN- α R2 heterodimer (1). Intracellular signaling through the Jak/Stat pathway is best characterized (3). However, the PI3K, ERK, and p38 kinase pathways are also involved (5). The antiviral activities of the IFNs have led to their use in treating viral infections (4). Type I IFNs also appear to have an integral role in several autoimmune diseases (6).

Endotoxin

Less than 0.01 ng endotoxin/1 μ g hIFN- α 1.

Purity

>98% as determined by SDS-PAGE of 6 μ g reduced (+) and non-reduced (-) recombinant hIFN- α 1. All lots are greater than 98% pure.

Source / Purification

Recombinant human IFN- α 1 (hIFN- α 1) Cys24 - Asp189 (Accession # NP_076918) was produced in *E. coli* at Cell Signaling Technology.

Bioactivity

The bioactivity of hIFN- α 1 was determined in a virus protection assay. The ED₅₀ of each lot is between 0.01-1.0 ng/ml.

Background References

1. Nagai, T. et al. (2003) *J Immunol* 171, 5233-43.
2. Stetson, D.B. and Medzhitov, R. (2006) *Immunity* 25, 373-81.
3. Vilcek, J. (2006) *Immunity* 25, 343-8.
4. Luft, T. et al. (2002) *Int Immunol* 14, 367-80.
5. van Boxel-Dezaire, A.H. et al. (2006) *Immunity* 25, 361-72.
6. Banchereau, J. and Pascual, V. (2006) *Immunity* 25, 383-92.

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