

PRODUCT INFORMATION



IFN- α 2 (human, recombinant)

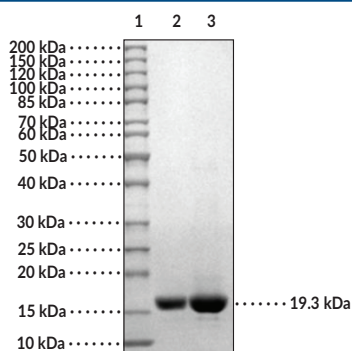
Item No. 42749

Overview and Properties

Synonyms: Interferon α 2, Type 1 Interferon
Source: Recombinant human IFN- α 2 expressed in *E. coli*
Amino Acids: 24-188
Uniprot No.: P01563
Molecular Weight: 19.3 kDa
Storage: -80°C (as supplied)
Stability: ≥ 1 year
Supplied in: 50 mM HEPES, pH 7.5, 200 mM sodium chloride, 20% glycerol, and 1 mM DTT
Protein
Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

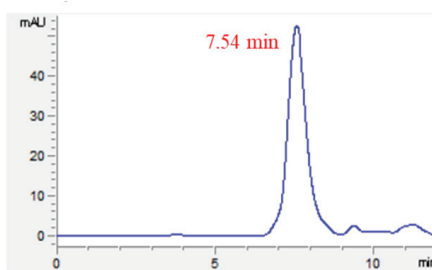
Images



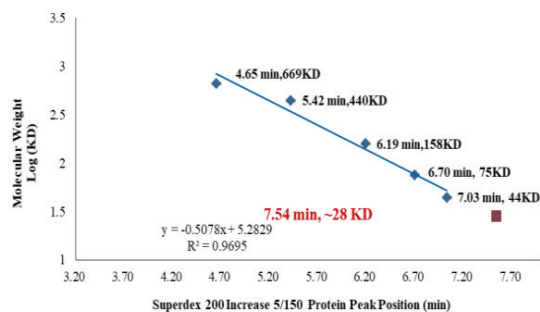
Lane 1: MW Markers
Lane 2: IFN- α 2 (2 μ g)
Lane 3: IFN- α 2 (10 μ g)

SDS-PAGE Analysis of IFN- α 2.

Representative gel image shown; actual purity may vary between each batch.



Analytical SEC



Analytical SEC

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Interferon $\alpha 2$ (IFN- $\alpha 2$) is a member of the type I interferon family of cytokines.¹ It is composed of an N-terminal region and five α helices. Following cleavage of the N-terminal region, the α helices are secreted and activate IFN- α/β receptor 1 (IFNAR1) and IFNAR2 receptors to induce JAK and STAT signaling in immune cells.^{1,2} IFN- $\alpha 2$ and other IFN- α subtypes are transiently expressed and necessary for innate and adaptive immune responses to bacterial, fungal, or parasitic infection or tumor development and progression.^{1,3} IFN- $\alpha 2$ induces apoptosis in OVCAR-3 ovarian cancer cells.^[28612] The levels of mRNA encoding IFN- $\alpha 2$ are increased in peripheral blood mononuclear cells (PBMCs) isolated from patients with chronic HIV infection.⁵ Cayman's IFN- $\alpha 2$ (human, recombinant) consists of 165 amino acids and has a calculated molecular weight of 19.3 kDa.

References

1. Paul, F., Pellegrini, S., and Uzé, G. IFNA2: The prototypic human alpha interferon. *Gene* **567**(2), 132-137 (2015).
2. Radhakrishnan, R., Walter, L.J., Hruza, A., *et al.* Zinc mediated dimer of human interferon- α_{2b} revealed by X-ray crystallography. *Structure* **4**(12), 1453-1463 (1996).
3. Borden, E.C., Sen, G.C., Uze, G., *et al.* Interferons at age 50: Past, current and future impact on biomedicine. *Nat. Rev. Drug Discov.* **6**(12), 975-990 (2007).
4. Miyake, K., Bekisz, J., Zhao, T., *et al.* Apoptosis-inducing factor (AIF) is targeted in IFN- $\alpha 2a$ -induced Bid-mediated apoptosis through Bak activation in ovarian cancer cells. *Biochim. Biophys. Acta* **1823**(8), 1378-1388 (2012).
5. Li, Y., Sun, B., Esser, S., *et al.* Expression pattern of individual IFNA subtypes in chronic HIV infection. *J. Interferon Cytokine Res.* **37**(12), 541-549 (2017).

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