Recombinant Cotton Rat IFN-α (Cys109Tyr)

Catalog Number: 1082-CR/CF

DESCRIPTION

Source	*E. coli*-derived Cys24-Lys190 (Cys109Tyr) Accession # AAL18816
N-terminal Sequence Analysis	Cys24
Predicted Molecular Mass	19.4 kDa

SPECIFICATIONS

Activity	Measured in an anti-viral assay using LCRT cotton rat fibrosarcoma cells infected with encephalomyocarditis (EMC) virus. The ED_{50} for this effect is 0.02-0.1 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Interferon-α, also known as leukocyte interferon, comprises a group of related but distinct proteins that share over 95% amino acid sequence homology. They are members of the type I interferon family which share a common cell surface receptor composed of two subunits, a 100 kDa ligand-binding subunit (IFN-αR1) and a 125 kDa subunit (IFN-αR2) that is involved both in ligand-binding and signal transduction. IFN-α is expressed primarily by leukocytes upon activation by viruses, bacteria, cytokines and growth factors. IFN-α has been shown to have anti-viral and immunomodulatory activities on target cells. It can also inhibit cell proliferation as well as induce apoptosis (1, 2).

Cotton rat IFN-α1 cDNA encodes a 189 amino acid (aa) residue precursor protein with a putative 23 aa signal sequence and a 166 aa mature protein. The protein contains five cysteines, four of which are involved in two intrachain disulfide bonds. Cotton rat IFN-α1 shares 52%, 67%, 68% and 72% aa sequence identity to human, rat, hamster and mouse IFN-α1, respectively.

References:

1. Domanski, P. and O.R. Colamonici (1996) Cytokine Growth Factor Rev. **7**:143.
2. Pestka, S. (2000) Biopolymers **55**:254.

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