

## Interferon alpha 2/IFNA2 Protein, Rhesus, Recombinant (His)

### General Information

|                       |  |
|-----------------------|--|
| Synonyms:             | Interferon $\alpha$ 2/IFNA2;interferon, $\alpha$ 2;interferon, alpha 2   |
| Protein Construction: | A DNA sequence encoding the rhesus IFNA2 (NP_001129266.1) (Met1-Glu188) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Cys 24 |
| Species:              | Rhesus   |
| Expression Host:      | HEK293 Cells   |
| Accession:            | B6CK11   |
| Molecular Weight:     | 21 kDa (predicted)   |

### QC Testing

|                      |   |
|----------------------|---|
| Biological Activity: | <ol style="list-style-type: none"><li>1. Measured in antiviral assay using WISH human amnion cells infected with vesicular stomatitisvirus (VSV). The ED50 for this effect is 0.4-4 <math>\mu</math>g/mL.</li><li>2. Measured by its binding ability in a functional ELISA. Immobilized Rhesus IFNA2-His at 10 <math>\mu</math>g/ml (100 <math>\mu</math>l/well) can bind human IFNAR2-Fc with a linear range of 0.31-2.5 <math>\mu</math>g/ml.</li></ol> |
| Purity:              | > 90 % as determined by SDS-PAGE  |
| Endotoxin:           | < 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.   |
| Formulation:         | Lyophilized from a sodium citrate buffer system at pH 6. 0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.   |

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

*Actual storage temperature shall be subject to the COA.*

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

IFNA2 (Interferon Alpha 2) is a Protein Coding gene. This gene is a member of the alpha interferon gene cluster on chromosome 9. The encoded protein is a cytokine produced in response to viral infection. Type I Interferons (IFNs) are well-known cytokines that exert antiviral activity, antitumor activity, and immunomodulatory effects. Interferon

tau (IFNT), a type I IFN similar to alpha IFNs (IFNA), is the pregnancy recognition signal produced by the ruminant conceptus. Among the IFN- $\alpha$  genes, a total of 28 different sequence variants have been described. The three principal subtypes of IFN $\alpha$ -2 are designated  $\alpha$ -2a,  $\alpha$ -2b, and  $\alpha$ -2c. IFN $\alpha$ -2b is being the predominant allele while IFN $\alpha$ -2a is less predominant and IFN $\alpha$ -2c only a minor allelic variant.

### Reference

- Wang, et al. (2004) Fever of recombinant human interferon-alpha is mediated by opioid domain interaction with opioid receptor inducing prostaglandin E2. *J Neuroimmunol.* 156(1-2): 107-12.
- Groopman JE, et al. (1984) Recombinant alpha-2 interferon therapy for Kaposi's sarcoma associated with the acquired immunodeficiency syndrome. *Ann Intern Med.* 100(5): 671-6.
- Krueger JM, et al. (1987) Interferon alpha-2 enhances slow-wave sleep in rabbits. *Int J Immunopharmacol.* 9(1): 23-30.

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