Recombinant Mouse IFNAB

Catalog Number: 10151-IF

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived mouse IFNAB protein Cys24-Glu190 Accession # AAA58254.1
N-terminal Sequence Analysis	Cys24
Predicted Molecular Mass	19 kDa

SPECIFICATIONS

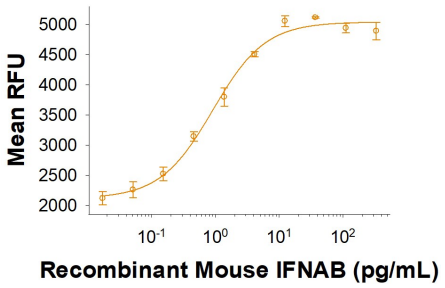
SDS-PAGE	17-25 kDa, under reducing conditions
Activity	Measured in an anti-viral assay using L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. Vogel, S.N. *et al.* (1982) Infect. Immunol. **38**:681. The ED_{50} for this effect is 0.6-6 pg/mL
Endotoxin Level	<0.10 EU per 1 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 PBS.
Shipping	The product is shipped with polar packs. 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, -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

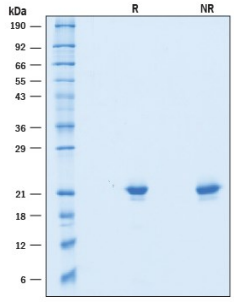
DATA

Bioactivity



Recombinant Mouse IFNAB (Catalog # 10151-IF) suppresses viral activity on L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. The ED_{50} for this effect is 0.6-6 pg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse IFNAB (Catalog # 10151-IF) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 17-25 kDa.

BACKGROUND

The interferons (IFN) are a family of cytokines with potent antiviral, antiproliferative and immunomodulatory properties, and are classified based on their binding specificity to cell surface receptors (1). The type I IFNs bind to the interferon alpha receptor (IFNAR), which consists of two subunits: IFNAR1 (α-subunit) and IFNAR2 (β-subunit). This binding contributes to TNFα induced signaling (2, 3). Both the human and mouse genome code for more than a dozen closely related IFNα subtypes and the various IFN α share about 80% sequence homology among them (4, 5). The mouse IFNAB consists of 190 amino acids (aa) including a 23 aa signal peptide and a 167 aa IFNAB main chain. It was found that IFNAB plays an important role in the regulation of DNA synthesis in colong-stimulating factor (CSF)-1-stimulated macrophage, as well as mediates the inhibitory efffects of LPS and TNFα (6). IFN regulatory factor 2 (IRF-2) controls IFNAB signaling and the absence of its negative regulation selectively affects development of the $CD8\alpha^-$ myeloid DC population (7).

References:

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3. Matsumiya, T. *et al.* (2007) J. Immunol. **179**:4542.
4. Schreiber, G. and J. Piehler (2015) Trends Immunol. **36**:139.
5. van Pesch, V. *et al.* (2004) J. Virol. **78**:8219.
6. Hamilton JA, *et al.* (1996) J Immunol. **156(7)**:2553.
7. Kenya H, *et al.* (2004) Proc Natl Acad Sci U S A. **101(8)**:2416.

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