# Data Sheet (Cat.No.TMPY-04634)

TargetMol

## Interferon alpha 1/IFNA1 Protein, Mouse, Recombinant (His)

### General Information

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|---|---|
| Synonyms: | Ifa1;Interferon α1;interferon, α1;interferon, alpha 1 |
| Protein Construction: | A DNA sequence encoding the mouse Ifna1 (NP_034632.2) (Cys24-Lys189) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Cys 24 |
| Species: | Mouse |
| Expression Host: | P. pastoris (Yeast) |
| Accession: | P01572 |
| Molecular Weight: | 20.5 kDa (predicted) |

### QC Testing

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| Biological Activity: | Measured in antiviral assays using L929 cells infected with vesicular stomatitisvirus (VSV). The ED50 for this effect is 20-100 pg/mL. |
| Purity: | > 90 % as determined by SDS-PAGE. |
| Endotoxin: | Please contact us for more information. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. 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

IFNA1, also known as IFN-alpha and IFNA, belongs to the alpha/beta interferon family. Interferons(IFNs) are proteins made and released by host cells in response to the presence of pathogens such as viruses, bacteria, parasites, or tumor cells. They belong to the large class of glycoproteins known as cytokines. IFNs stimulate the production of two enzymes: a protein kinase and an oligoadenylate synthetase. They allow for communication between cells to trigger the protective defenses of the immune system that eradicate pathogens or tumors. IFNs

can activate immune cells, such as natural killer cells and macrophages; they increase recognition of infection or tumor cells by up-regulating antigen presentation to T lymphocytes, and they also increase the ability of uninfected host cells to resist new infection by the virus. Leukocyte interferon is produced predominantly by B lymphocytes. Immune interferon is produced by mitogen- or antigen-stimulated T lymphocytes. IFNA1 is produced by macrophages and has antiviral activities.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Takayama I,et al. (2012) The nucleocapsid protein of measles virus blocks host interferon response. Virology. 424 (1):45-55.

Vairo D,et al. (2011) Severe impairment of IFN-? and IFN-? responses in cells of a patient with a novel STAT1 splicing mutation. Blood. 118(7):1806-17.

Bhattacharya S,et al. (2011) Bcr-abl signals to desensitize chronic myeloid leukemia cells to IFN? via accelerating the degradation of its receptor. Blood. 118(15):4179-87.