

## Product Datasheet

### Recombinant Rat Interferon- $\gamma$ (rRtFN- $\gamma$ ) (orb1495057)

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Catalog Number</b>       | orb1495057                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Category</b>             | Proteins                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>          | <p>Interferon-gamma (IFN-<math>\gamma</math>, also known as Type II interferon or immune interferon) is a cytokine produced primarily by T-lymphocytes and natural killer cells. The protein shares no significant homology with IFN-<math>\beta</math> or the various IFN-<math>\alpha</math> family proteins. Mature IFN-<math>\gamma</math> exists as noncovalently-linked homodimers. Human IFN-<math>\gamma</math> is highly species specific and is biologically active only in human and primate cells. IFN-<math>\gamma</math> was originally characterized based on its antiviral activities. The protein also exerts antiproliferative, immunoregulatory and proinflammatory activities and is thus important in host defense mechanisms. IFN-<math>\gamma</math> induces the production of cytokines, upregulates the expression of class I and II MHC antigens, Fc receptor and leukocyte adhesion molecules. It modulates macrophage effector functions, influences isotype switching and potentiates the secretion of immunoglobulins by B cells. IFN-<math>\gamma</math> also augments TH1 cell expansion and may be required for TH1 cell differentiation.</p> |
| <b>Form/Appearance</b>      | Lyophilized from a 0.2mm filtered concentrated solution in PBS, pH 7.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Buffer/Preservatives</b> | Lyophilized from a 0.2mm filtered concentrated solution in PBS, pH 7.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Purity</b>               | >95% by SDS-PAGE and HPLC analyses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Purification</b>         | >95% by SDS-PAGE and HPLC analyses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Protein Sequence</b>     | MQGTLIESLES LKNYFNSSSMDAMEGKSLLLDIWRNWQKDGNTKILESQIISFYLR LFEVLKD<br>NQAISNNISVIESHLITNFFSNSKAKKDAFMSIAKFEVNNPQIQHKAVNELIRVIHQ LSPESSLR<br>KRKRSRC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>MW</b>                   | Approximately 15.6 kDa, a single non-glycosylated polypeptide chain containing 135 amino acids.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| <b>Application notes</b>   | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at -20°C. Further dilutions should be made in appropriate buffered solutions. |
| <b>Endotoxins</b>          | Less than 1EU/mg of rRaIFN- $\gamma$ as determined by LAL method.                                                                                                                                                                                                                                                                                                                |
| <b>Source</b>              | Escherichia coli.                                                                                                                                                                                                                                                                                                                                                                |
| <b>Biological Activity</b> | Measured in an antiviral assay using L929 mouse fibrosarcoma cells infected with encephalomyocarditis (EMC) virus. The ED50 for this effect is typically 1-3 ng/mL, corresponding to a Specific Activity of $\geq 3.3 \times 10^5$ IU/mg.                                                                                                                                        |
| <b>Storage</b>             | This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.                      |
| <b>Note</b>                | For research use only                                                                                                                                                                                                                                                                                                                                                            |
| <b>Expiration Date</b>     | 6 months from date of receipt.                                                                                                                                                                                                                                                                                                                                                   |

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