Human IFN-γ Singleplex Bead Kit

Technical Data Sheet

Catalog #: LHC4031 **Lot #:*** 727941

***Note: A letter at the end of the lot number signifies an additional packaging of this same lot.**

Intended Use

This kit is comprised of components for the measurement of human IFN-γ in serum, plasma or tissue culture supernatant. The assay may be run alone or in combination with other Singleplex Bead Kits from Invitrogen. Buffer reagents needed to complete the reaction are sold separately under Catalog #LHB0001. These reagents are intended for use in the **Luminex® 100™ or 200™ System** only. **This kit is configured for research use only and is not to be used in diagnostic procedures.**

Reagents Provided

Hu IFN-γ

1. **Part #:** LM005 **Description:** Antibody Bead Concentrate (10X) **Lot:** 730920 **Size:** 0.25 mL-100 tests

Bead Region: 38
Form: 0.25 mL 10X bead concentrate solution in storage buffer. Contains 0.05% sodium azide as a preservative.
Storage: **Light-sensitive material.** Store at 2 to 8°C until the expiration date indicated on the kit.

Hu IFN-γ

2 **Part #:** BN005 **Description:** Biotinylated Ab Conc. (10X) **Lot:** 727943 **Size:** 1 mL-100 tests

Form: 1 mL of a 10X stock of Biotinylated Antibody Concentrate in Biotin Diluent. Contains 0.1% sodium azide as preservative. Concentration of antibody is matched to this lot of beads. Do not mix lots of Coated Beads and Detection Antibody.
Storage: Store at 2 to 8°C until the expiration date indicated on the kit.

3. **Part #:** SM311 **Description:** Hu 16-Plex Standard **Lot:** 621957 **Size:** 2 Vials

Form: Lyophilized. The proteins in this standard have been calibrated against the masses of highly purified recombinant proteins, with the respective Invitrogen ELISA kits, and NIBSC calibration standards (if available). See the Product Insert included in the Buffer Reagent Kit for further information. Contains 0.1% sodium azide as a preservative.
Storage: Store at 2 to 8°C. Use within 1 hour after reconstitution. Discard immediately after use.

Concentration of Reconstituted Standards:**

IL-1β (7,140 pg/mL)	IL-10 (14,700 pg/mL)	IFN-α (8,900 pg/mL)	IL-6 (3,200 pg/mL)
IL-12 (7,600 pg/mL)	IL-13 (18,700 pg/mL)	IL-15 (21,500 pg/mL)	IL-17 (12,300 pg/mL)
GM-CSF (14,900 pg/mL)	IL-5 (5,100 pg/mL)	IFN-γ (14,100 pg/mL)	TNF-α (5,300 pg/mL)
IL-2 (10,000 pg/mL)	IL-7 (3,400 pg/mL)	IL-4 (37,600 pg/mL)	IL-8 (9,000 pg/mL)

Note: During calibration, the protein values required adjustment; the new values have been designated above. If comparing data from previous lot, please contact Tech Support for further information.

****Important note: The concentrations of reconstituted standards are lot-specific. Please verify all concentration values entered in data analysis software.**

Reconstitution: Reconstitute with 1 mL Assay Diluent when measuring IFN-γ in serum or plasma samples. For other sample types, such as tissue culture supernatants, reconstitute the standard in 1 mL of a solution consisting of 50% Assay Diluent + 50% of sample matrix. Allow standard to rehydrate for approximately 10 minutes before further dilution.

Recommended Starting Concentration for Standard Curve: Upon reconstitution, the starting concentration of standard is the value cited above. Make serial 1:3 dilutions in Assay Diluent (serum/plasma samples) or other appropriate matrix. Use 100 µL per assay. If establishing a Multiplex Assay, this same standard can be used to measure the other related cytokines cited above in a Multiplex Assay format. Refer to the User Manual included in the Buffer Reagent Kit for further information.

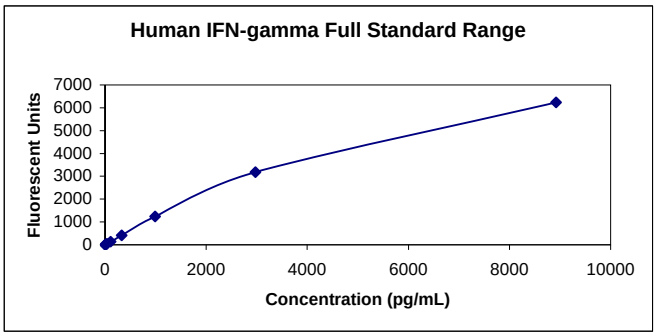
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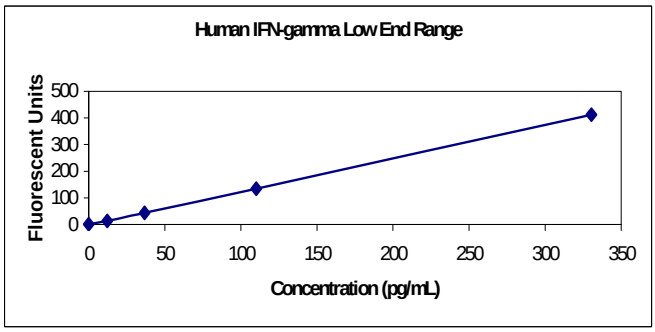
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Performance Characteristics

Analytical Sensitivity: The minimum detectable dose of Human IFN-γ is <5 pg/mL. This was determined by adding two standard deviations to the mean FI obtained when the zero standard was assayed 30 times.





Typical Standard Curve

Specificity: Buffered solutions of a panel of substances at 10 or 50 pg/mL were assayed with the Invitrogen Human IFN-γ Singleplex Bead Kit. The following substances were tested and all were found to have no cross-reactivity: human IL-1α, IL-1β, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-10, G-CSF, GM-CSF, IFN-α, IFN-β, LIF, MCP-1, MIP-1α, MIP-1β, OSM, RANTES, TGF-β, TNF-α, TNF-β; mouse IFN-γ; rat IFN-γ; swine IFN-γ.

Precision:

	Intra-assay (n=16)	**Inter-assay** (n=32)
Mean (pg/mL)	575	569
SD	48	51
%CV	8.3	9.0

Linearity: Human serum and tissue culture medium containing 10% fetal calf serum were spiked with human IFN-γ and serially diluted in Assay Diluent and a solution consisting of 50% Assay Diluent and 50% tissue culture medium containing 10% fetal calf serum, respectively, over the range of the assay. Linear regression analysis of samples versus the expected concentration yielded a correlation coefficient of 0.99 for both serum and tissue culture.

Recovery:
Human serum averaged 80% (range: 62% to 104%).
Human plasma EDTA averaged 95% (range: 82% to 110%).
Human plasma citrate averaged 83% (range: 74% to 95%).
Human plasma heparin averaged 99% (range: 82% to 114%).
Tissue culture medium containing 10% fetal calf serum averaged 100% (range: 95% to 105%).

Correlation to ELISA:
A correlation coefficient of 0.98 was calculated when values for stimulated lymphocytes in RPMI + 10% FCS, obtained with the Human IFN-γ Singleplex Bead Kit were compared to the Invitrogen ELISA for Human IFN-γ (cat.# KAC1231, KAC1232). Human IFN-γ Singleplex Bead Kit (pg/mL) x 1.12 = Hu IFN-γ ELISA (pg/mL). Correlation of results obtained with the Human IFN-γ Singleplex Bead Kit to one's own system should be determined to arrive at an appropriate multiplication factor.

By purchasing this Kit, which contains fluorescently labeled microsphere beads authorized by Luminex® Corporation ("Luminex®"), you, the customer, acquire the right under Luminex's patent rights to use this Kit or any portion of this Kit, including without limitation the microsphere beads contained herein, only with Luminex's laser based fluorescent analytical test instrumentation marketed under the name Luminex® 100™ or 200™ System. This product is covered by one or more of the following U.S. patents: 6,046,807.

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