

***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 Rat GM-CSF, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-6, IL-10, IL-12 and TNF- α in serum, plasma, or tissue culture supernatant. The assay may be run alone or in combination with other Singleplex Bead Kits from Invitrogen. 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

Rt Cytokine 10-Plex

1. **Part #:** LM217 **Description:** Antibody Bead Concentrate (10X) **Lot:** 820267 **Size:** 0.25 mL-100 tests

Form: 0.25 mL 10X bead concentrate solution in storage buffer. Contains 0.05% sodium azide as a preservative. See the Product Insert included in the Buffer Reagent Kit for further information.

Storage: **Light-sensitive material.** Store at 2 to 8°C, in the dark, until the expiration date indicated on the kit.

Rt Cytokine 10-Plex

2. **Part #:** BN217 **Description:** Biotinylated Ab Conc. (10X) **Lot:** 820265 **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 Biotinylated Antibody. Refer to User Manual included in the Buffer Reagent Kit for further information.

Storage: Store at 2 to 8°C until the expiration date indicated on the kit.

3. **Part #:** SM0562 **Description:** Rt Cytokine 10-Plex Standard **Lot:** 491428 **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). Refer to User Manual 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.

Concentrations of Reconstituted Standard**:

GM-CSF (5,320 pg/mL)	IFN- γ (4,350 pg/mL)	IL-1 α (31,660 pg/mL)	IL-1 β (16,840 pg/mL)
IL-2 (34,020 pg/mL)	IL-4 (2,040 pg/mL)	IL-6 (8,300 pg/mL)	IL-10 (36,300 pg/mL)
IL-12 (10,390 pg/mL)	TNF- α (1,260 pg/mL)		

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

Reconstitution of Standard: Each standard curve requires one vial of Rt Cytokine 10-Plex Standard. While working with serum or plasma samples, reconstitute the standard in 1.0 mL Assay Diluent. For other sample types, such as tissue culture supernatants, reconstitute the standard in 1.0 mL of a solution composed of 50% Assay Diluent + 50% of matrix that matches the sample matrix. Allow the standard to rehydrate for at least 10 minutes. Invert to mix the standard, then proceed with further dilution.

Recommended Starting Concentration for Standard Curve: Upon reconstitution, the starting concentrations of the standard are the values cited above. Make serial 1:3 dilutions in the same diluent used to reconstitute the standard. Use 100 μ L per assay. Refer to User Manual included for further information.

Explanation of symbols

Symbol	Description	Symbol	Description
REF	Catalogue Number	LOT	Batch code
RUO	Research Use Only	IVD	In vitro diagnostic medical device
Use by			Temperature limitation
Manufacturer		EC REP	European Community authorised representative
[-]	Without, does not contain	[+]	With, contains
Protect from light			Consult accompanying documents
IFU			Directs the user to consult instructions for use (IFU), accompanying the product.

For research use only. CAUTION: Not for human or animal therapeutic or diagnostic use.

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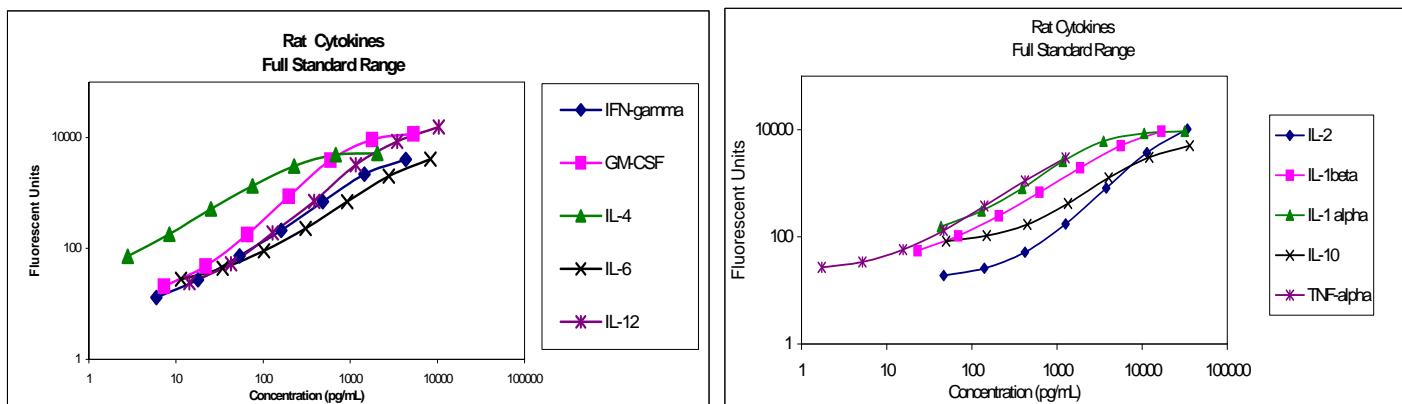
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Rat Cytokine 10-Plex Panel

Technical Data Sheet

Performance Characteristics graphs updated

Typical Standard Curves (Please Note: The data presented here were collected as a 10-Plex, but are depicted in two 5-Plex groupings for clarity.)



Cytokine	Rt GM-CSF	Rt IFN- γ	Rt IL-1 α	Rt IL-1 β	Rt IL-2	Rt IL-4	Rt IL-6	Rt IL-10	Rt IL-12	Rt TNF- α
Bead Region	27	38	4	6	54	77	19	15	20	50
Sensitivity (pg/mL)	<5	<3	<15	<10	<50	<1	<5	<50	<10	<2
Recovery (Serum)	102%	107%	112 %	122%	79.1%	103%	108%	87.9%	85.2%	83.5%
Recovery (TC)	109%	94.2%	109.8%	93.0%	108.2%	107.9%	96.6%	113.3%	88.0%	98.4%
Recovery (Citrate Plasma)	95.4%	97.6%	90.7%	104%	97.0%	98.2%	92.4%	84.8%	93.5%	78.4%
Recovery (EDTA Plasma)	87.1%	Not Recommended	98.2%	108%	87.1%	98.9%	101%	85.9%	101%	95.6%
Recovery (Heparin Plasma)	101%	98.2%	117%	112%	74.9%	98.4%	98.8%	90.7%	110%	95.3%
Inter assay variation	3.5%	4.6%	4.2%	5.9%	4.6%	4.8%	3.2%	6.4%	4.8%	5.0%
Intra assay variation	3.3%	4.2%	4.2%	4.2%	2.3%	4.6%	2.8%	4.6%	4.4%	4.7%
Invitrogen ELISA (Catalog #)	N/A	KRC4021	KRC0811	N/A	KRC0021	N/A	KRC0061	KRC0101	KRC0121	KRC3011
Correlation coefficient (Serum and TC)	N/A	0.978	0.980	N/A	0.990	N/A	0.990	0.916	Serum: 0.956 TC: 0.966	0.998
† Multiplication factor (Serum and TC)	N/A	1.694	0.596	N/A	0.399	N/A	3.671	0.896	Serum: 0.562 TC: 0.934	1.037

EQUATION: Bead kit value x †Multiplication Factor = ELISA value

Specificity: Recombinant analytes of the multiplex were assayed individually at 5 ng/mL with the Invitrogen Rat Cytokine 10-Plex Panel and all were found to have no cross-reactivity.

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™. This product is covered by one or more of the following U.S. patents: 6,046,807.

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