



Magnetic Luminex® Performance Assay Human IL-2 Kit

Catalog Number: LUHM202

Pack Size: 100 Tests

SPECIFICATIONS AND USE

Recommended Sample Types

- Cell culture supernates, serum, EDTA plasma, and heparin plasma.

Microparticle Region

- Region-22

Components

- Microparticle Concentrate (Part 894433) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 892619) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

Other Supplies Required

- Magnetic Luminex Performance Assay Human Base Kit A (Catalog Number LUHM000).

Storage

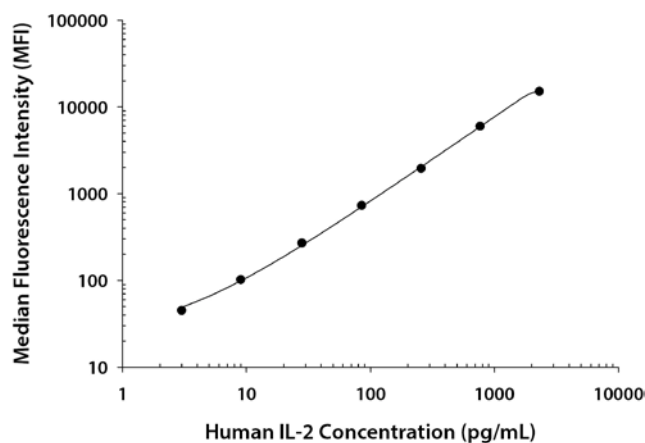
- Store the unopened kit at 2-8 °C. Do not use past the expiration date on the label.
- **Avoid freezing microparticles.**
- **Protect microparticles from light.**

Instructions for Use

- Refer to the Base Kit insert for the Luminex Performance Assay procedure.

TYPICAL DATA

This human IL-2 standard curve is provided only for demonstration. A standard curve must be generated each time an assay is run, utilizing values from the Standard Value Card included in the Base Kit.



Standard	pg/mL	MFI	Average	Corrected
Blank	0	26 27	27	—
1	2300	15,038 15,198	15,118	15,091
2	767	5962 6033	5998	5971
3	256	1971 1989	1980	1953
4	85	755 757	756	729
5	28	293 298	296	269
6	9	128 129	128	101
7	3	71 72	72	45

PERFORMANCE CHARACTERISTICS

All data were collected with assays run as a multiplex.

Data obtained with polystyrene and magnetic beads were equivalent.

Sensitivity - The Minimum Detectable Dose (MDD) was determined by adding two standard deviations to the MFI of twenty zero standard replicates and calculating the corresponding concentration.

Thirty-six assays were evaluated, and the MDD of human IL-2 ranged from 0.31-2.23 pg/mL. The mean MDD was 0.89 pg/mL.

Intra-assay Precision (precision within an assay) - Three samples of known concentration were tested twenty times on one plate to assess precision within an assay.

Inter-assay Precision (precision between assays) - Three samples of known concentration were tested in twenty separate assays to assess precision between assays.

	Intra-assay Precision				Inter-assay Precision		
Sample	1	2	3		1	2	3
n	20	20	20		20	20	20
Mean (pg/mL)	10	23	203		28	265	543
Standard Deviation	0.52	1.19	6.39		3.7	34	52.5
% CV	5.2	5.2	3.1		13.2	12.8	9.7

Recovery and Linearity – Samples containing and/or spiked with high concentrations of IL-2 were evaluated for recovery and were serially diluted to evaluate assay linearity.

Recovery			Linearity					
Sample Type	Average % Recovery	Range (%)			Cell culture supernates	Serum	EDTA Plasma	Heparin Plasma
Cell culture supernates	94	89-98	1:2	Average % of Expected	101	103	104	100
				Range (%)	89-116	99-106	97-109	88-118
Serum	109	98-119	1:4	Average % of Expected	102	99	100	93
				Range (%)	86-124	88-109	91-104	80-114
EDTA plasma	100	88-111	1:8	Average % of Expected	102	95	96	90
				Range (%)	84-121	80-112	89-102	81-105
Heparin plasma	103	90-123						

Specificity - This assay recognizes natural and recombinant human IL-2. The assay was tested for cross-reactivity and interference with the following factors. Less than 0.5% cross-reactivity and interference was observed.

Recombinant human:			Recombinant mouse:		Recombinant rat:	Recombinant porcine:	Recombinant human multiplex partners:	
6Ckine	IL-1 RII	IL-17	G-CSF	IL-8	GM-CSF	GM-CSF	ENA-78	IL-8
CNTF	IL-2 R α	IL-18	GM-CSF	IL-10	IFN- γ	IL-1 α	FGF basic	IL-10
β -ECGF	IL-2 R β	LIF	IFN- γ	IL-17	IL-1 α	IL-1 β	G-CSF	IL-17
FGF acidic	IL-2 R γ	LIF R	IL-1 α	MIP-1 α	IL-1 β	IL-2	GM-CSF	MCP-1
FGF-4	IL-3 R α	MIP-1 α	IL-1ra	MIP-1 β	IL-2	IL-4	IFN- γ	MIP-1 α
FGF-5	IL-4 R	MIP-3 α	IL-1	RANTES	IL-4	IL-6	IL-1 α	MIP-1 β
FGF-6	IL-5 R α	MIP-3 β	IL-2	Tpo	IL-6	IL-8	IL-1 β	RANTES
FGF-9	IL-6 R	MCP-2	IL-4	TNF- α	IL-10	IL-10	IL-1ra	Tpo
FGF-10	IL-10 R	MCP-3	IL-5	VEGF	TNF- α	Leptin	IL-4	TNF- α
FGF-18	IL-3	MCP-4	IL-6			TNF- α	IL-5	VEGF
GCP-2	IL-7	M-CSF					IL-6	
GRO α	IL-9	TNF RI						
GRO β	IL-11	TNF- α						
GRO γ	IL-12 p40	VEGF ₁₂₁						
I-309	IL-12 p70	VEGF ₁₆₅						
IGF-I	IL-13	VEGF-D						
IGF-II	IL-15							
IL-1 RI	IL-16							

TECHNICAL HINTS

- Protect the microparticles and streptavidin-PE from light at all times.
- Refer to the Base Kit Standard Value Card for reconstitution volume and values of the reconstituted standard.
- Diluted microparticles cannot be stored. Make a fresh dilution of microparticles each time the assay is run.
- The use of a magnetic device made to accommodate a microplate is necessary for washing.
- Discrepancies may exist in values obtained for the same analyte utilizing different technologies.

Luminex Performance Assays afford the user the benefit of multianalyte analysis of biomarkers in a complex sample. For each sample type, a single, multipurpose diluent is used to optimize recovery, linearity, and reproducibility. Such a multipurpose diluent may not optimize any single analyte to the same degree that a unique diluent selected for analysis of that analyte can optimize conditions. Therefore, some performance characteristics may be more variable than those for assays designed specifically for single analyte analysis.