Magnetic Luminex® Performance Assay Human IL-10 Kit

Catalog Number: LUHM217
Pack Size: 100 Tests

SPECIFICATIONS AND USE

Recommended Sample Types
- Cell culture supernates, serum, EDTA plasma, and heparin plasma.

Microparticle Region
- Region-29

Components
- Microparticle Concentrate (Part 894438) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 892624) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

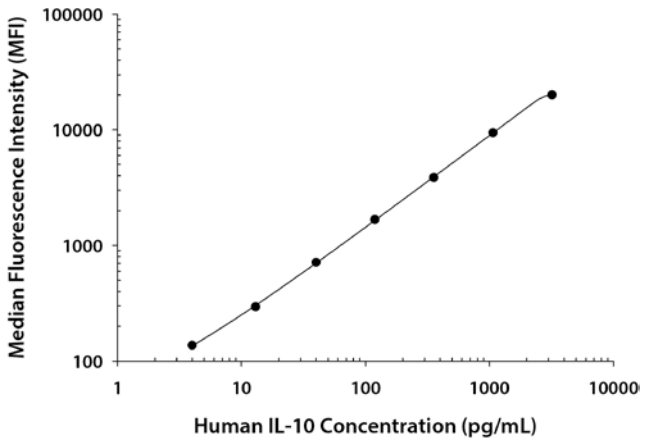
Other Supplies Required
- Magnetic Luminex Performance Assay Human Base Kit A (Catalog Number LUHM000).

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-10 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	22 22	22	——
1	3200	20,050 20,079	20,064	20,042
2	1067	9300 9594	9447	9425
3	356	3871 3907	3889	3867
4	119	1671 1721	1696	1674
5	40	734 738	736	714
6	13	315 320	317	295
7	4	157 161	159	137

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.

Forty-three assays were evaluated, and the MDD of human IL-10 ranged from 0.07-0.30 pg/mL. The mean MDD was 0.13 pg/mL.

R&D Systems, Inc.
1-800-343-7475

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-five 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)	10.4	66	320	12	73	333
Standard Deviation	0.54	3.4	20.7	1.0	5.0	24
% CV	5.2	5.2	6.4	10.1	7.4	7.3

Recovery and Linearity – Samples containing and/or spiked with high concentrations of IL-10 were evaluated for recovery and were serially diluted to evaluate assay linearity.

Recovery		
Sample Type	Average % Recovery	Range (%)
Cell culture supernates	105	95-117
Serum	108	90-122
EDTA plasma	97	86-106
Heparin plasma	97	88-102

Linearity					
		Cell culture supernates	Serum	EDTA Plasma	Heparin Plasma
1:2	Average % of Expected	101	99	100	96
	Range (%)	90-111	92-109	92-110	92-101
1:4	Average % of Expected	95	95	100	92
	Range (%)	83-119	87-102	90-111	88-98
1:8	Average % of Expected	96	91	96	89
	Range (%)	76-114	88-95	84-107	82-96

Specificity - This assay recognizes natural and recombinant human IL-10. 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-6
CNTF	IL-2 Rα	IL-18	GM-CSF	IL-10	IFN-γ	IL-1α	FGF basic	IL-8
β-ECGF	IL-2 Rβ	LIF	IFN-γ	IL-17	IL-1α	IL-1β	G-CSF	IL-17
FGF acidic	IL-2 Rγ	LIF R	IL-1α	MIP-1α	IL-1β	IL-2	GM-CSF	MCP-1
FGF-4	IL-3 Rα	MIP-1α	IL-1ra	MIP-1β	IL-2	IL-4	IFN-γ	MIP-1α
FGF-5	IL-4 R	MIP-3α	IL-1	RANTES	IL-4	IL-6	IL-1α	MIP-1β
FGF-6	IL-5 Rα	MIP-3β	IL-2	Tpo	IL-6	IL-8	IL-1β	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-2	TNF-α
FGF-18	IL-3	MCP-4	IL-6			TNF-α	IL-4	VEGF
GCP-2	IL-7	M-CSF					IL-5	
GROα	IL-9	TNF RI						
GROβ	IL-11	TNF-α						
GROγ	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.