Magnetic Luminex® Performance Assay TGF-β1 Kit

Catalog Number: LTGM100
Pack Size: 100 Tests

SPECIFICATIONS AND USE

Recommended Sample Types
- Cell culture supernates, serum, platelet-poor EDTA plasma, platelet-poor heparin plasma, urine, and human milk.

Microparticle Region
- Region-34

Components
- Microparticle Concentrate (Part 894839) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 894840) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

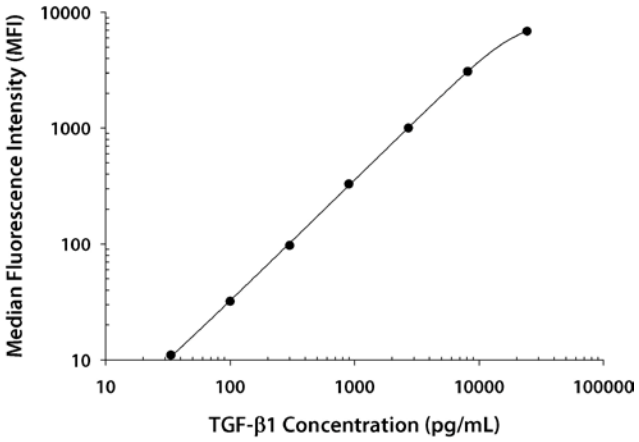
Other Supplies Required
- Magnetic Luminex Performance Assay TGF-β Base Kit (Catalog Number LTGM00).

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 Magnetic Luminex Performance Assay procedure.

TYPICAL DATA

This TGF-β1 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	33 35	34	——
1	24,300	6871 6915	6893	6859
2	8100	3108 3126	3117	3083
3	2700	1020 1052	1036	1002
4	900	362 366	364	330
5	300	128 134	131	97
6	100	64 68	66	32
7	33.3	43 47	45	11

SENSITIVITY

All data were collected with assays run as a multiplex.
Data obtained with polystyrene and magnetic beads were equivalent.

Thirty-five assays were evaluated, and the minimum detectable dose (MDD) of TGF-β1 ranged from 2.1-24.6 pg/mL. The mean MDD was 11.1 pg/mL.

The MDD was determined by adding two standard deviations to the MFI of twenty zero standard replicates and calculating the corresponding concentration.

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PRECISION

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 ninety-four separate assays to assess precision between assays.

	Intra-assay Precision			Inter-assay Precision		
Sample	1	2	3	1	2	3
n	20	20	20	94	94	94
Mean (pg/mL)	166	762	4422	158	837	5122
Standard Deviation	11	37	276	30	130	842
% CV	6.6	4.9	6.2	19.0	15.5	16.4

RECOVERY

Samples were spiked with TGF-β1 and evaluated for recovery.

Sample Type	Average % Recovery	Range
Cell culture supernate	100	72-119%
Serum	97	64-115%
EDTA plasma	100	78-126%
Heparin plasma	97	77-117%
Platelet-poor EDTA plasma	103	86-118%
Platelet-poor heparin plasma	104	87-122%
Urine	103	89-120%

LINEARITY

Samples were spiked with TGF-β1 and serially diluted to evaluate assay linearity.

		Cell culture supernates	Serum	EDTA Plasma	Heparin Plasma	Platelet-poor		Urine
						EDTA plasma	Heparin plasma	
1:2	Average % of Expected	101	96	99	98	109	103	102
	Range (%)	75-123	88-109	94-110	92-103	102-113	99-109	92-111
1:4	Average % of Expected	99	92	100	99	103	99	94
	Range (%)	76-120	80-103	90-116	80-119	94-115	92-104	84-104
1:8	Average % of Expected	94	94	96	99	99	95	89
	Range (%)	64-116	84-101	82-112	79-125	81-120	86-107	71-107

SPECIFICITY

Note: *Refer to the base kit insert for a complete list of analytes tested for cross-reactivity and interference.*

This assay recognizes natural and recombinant TGF-β1.

Recombinant human TGF-β1.2 cross-reacts approximately 4.5% in this assay.
Recombinant human TGF-β RIII interferes at concentrations > 50 ng/mL in this assay.

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.

Magnetic Luminex Performance Assays afford the user the benefit of multianalyte analysis of cytokines in a complex sample. A single, multipurpose diluent for each sample type is used to optimize recovery, linearity, and reproducibility. Such a diluent may not optimize any single analyte. Therefore, some performance characteristics may be more variable than those for assays designed specifically for single analyte analysis.