Magnetic Luminex® Performance Assay TGF-β2 Kit

Catalog Number: LTGM200
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-15

Components
- Microparticle Concentrate (Part 894842) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 894843) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

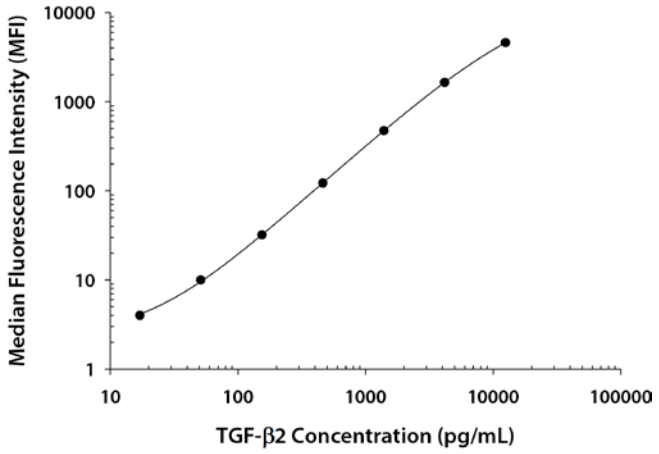
Other Supplies Required
- Magnetic Luminex Performance Assay TGF-β Base Kit (Catalog Number LTGM00).

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-β2 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	3 3	3	—
1	12,500	4467 4720	4594	4591
2	4167	1641 1653	1647	1644
3	1389	446 504	475	472
4	463	121 129	125	122
5	154	34 35	35	32
6	51	13 13	13	10
7	17	6 7	7	4

SENSITIVITY

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

Thirty-eight assays were evaluated, and the minimum detectable dose (MDD) of TGF-β2 ranged from 2.1-18.3 pg/mL. The mean MDD was 6.8 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)	134	2332	5117	122	2318	5189
Standard Deviation	11	116	288	22	260	523
% CV	8.2	5.0	5.6	18.0	11.2	10.1

RECOVERY

Samples were spiked with TGF-β2 and evaluated for recovery.

Sample Type	Average % Recovery	Range
Cell culture supernate	105	77-133%
Serum	103	72-145%
EDTA plasma	107	77-133%
Heparin plasma	110	82-136%
Platelet-poor EDTA plasma	115	98-135%
Platelet-poor heparin plasma	112	84-144%
Urine	106	75-131%

LINEARITY

Samples were spiked with human TGF-β2 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	98	97	94	95	102	101	101
	Range (%)	80-113	90-105	82-104	86-110	93-115	91-109	82-117
1:4	Average % of Expected	96	92	90	91	98	100	97
	Range (%)	74-121	86-98	82-105	88-102	81-115	86-114	74-114
1:8	Average % of Expected	97	90	87	88	98	95	95
	Range (%)	76-121	75-112	75-100	79-101	82-120	80-115	73-108

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 human TGF-β2.

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.