

Bio-Plex Pro™ Mouse Th17 Assays

MAGNETIC SEPARATION ENABLED

IL-17F, IL-21, IL-22, IL-23p19, IL-31, IL-33, CD40L, MIP-3 α , IL-1 β , IL-6, IL-10, IL-17A, IFN- γ , TNF- α , IL-25, IL-27p28, ICAM-1, TGF- β 1, TGF- β 2, TGF- β 3

- Validated in mouse serum, plasma, and tissue culture sample matrices
- Magnetic or vacuum assay separation
- All-in-one kit format
- Flexible ordering options

Confident Multiplex Measurements of the Th17 Cytokines

Bio-Plex Pro mouse Th17 assays are magnetic bead-based multiplex assays that offer accurate and reproducible measurements of 20 target molecules in serum, plasma, and tissue culture sample types for mouse models. These assays have been developed to provide reliable performance with the flexibility required to meet all of your research needs.

- Broad assay range** — optimized to detect analyte levels in normal and diseased samples
- Robustness** — validated in serum, plasma, and tissue culture
- Increased productivity** — measure multiple analytes simultaneously in one 3-hr experiment
- Flexible ordering options** — order either a premixed panel, singleplex analytes of interest, or customize your assay with Bio-Plex Assay Builder (www.bio-rad.com/assaybuilder)
- Option to use a magnetic wash station** — simplify your assay workflow and improve data consistency among experiments
- Compatible with Bio-Plex® 200, Bio-Plex 3D, and MAGPIX systems**

Benefits of Magnetic Bead-Based Assays

Magnetic bead-based assays allow optional magnetic separation during wash steps using an automated magnetic bead washer. This innovation greatly simplifies assay processing, eliminating the need for a vacuum manifold. Many users also see significantly improved reproducibility.



Assay Performance Definitions

Assay working range — the range of concentrations within which the assay is precise and accurate. Boundaries of the assay working range are defined by the lower limit of quantitation (LLOQ) and the upper limit of quantitation (ULOQ)

Precision — the coefficient of variation (%CV) at concentrations within the assay working range

Accuracy — ratio of the observed concentration versus the expected concentration of a known amount of spiked analyte within the assay working range

Sensitivity (limit of detection, LOD) — the concentration of analyte for which the fluorescence intensity signal is two standard deviations above the background signal

Assay Validation

All Bio-Plex Pro assays are put through a rigorous evaluation that includes the following assay parameters:

- Specificity and cross reactivity testing
- Accuracy evaluation in key sample matrices
- Inter- and intra-assay precision
- Sensitivity (LOD)
- Assay range evaluation (LLOQ/ULOQ)
- Linearity of dilution
- Parallelism and matrix effect validation
- Sample analysis ensuring normal and disease samples fall within the assay range

Table 1 provides representative assay performance. Figures 1 and 2 are examples of linearity of dilution and confirmation of samples falling within the assay range, representing the careful work that was done to ensure you get the most accurate results possible.

Table 1. Representative assay working ranges, sensitivity, and precision. The LLOQ, ULOQ, LOD, and inter-assay precision %CV are mean data determined from three independent multiplex assays in a serum-based matrix. Intra-assay %CV is derived from one representative assay. LLOQ and ULOQ are defined as the boundary standard curve points in which the performance specifications of individual standard points were met for 10% intra-assay CV, 15% inter-assay CV, and a recovery range of 80–120%. Data were generated using the magnetic workflow with the Bio-Plex Pro II wash station. *IL-25 and IL-27p28 were measured as a 2-plex. **ICAM-1 was measured as a singleplex.

Targets	Assay Working Range, pg/ml		Assay Sensitivity, pg/ml	Assay Precision	
	LLOQ	ULOQ	LOD	Intra-assay %CV	Inter-assay %CV
Panel B 8-Plex					
IL-17F	1	6,362	0.1	5	5
IL-21	6	8,207	2.8	3	15
IL-22	0.5	8,433	0.1	4	5
IL-23p19	3.4	55,764	0.7	5	6
IL-31	2.5	41,313	5.2	6	6
IL-33	0.5	7,343	0.2	5	12
CD40L	3.6	11,245	0.4	4	14
MIP-3 α	0.7	1,660	0.3	6	13
Panel A 6-Plex					
IL-1 β	10.36	60,631	9.4	4	7
IL-6	0.74	12,053	0.2	3	16
IL-10	2.95	12,066	1.0	4	5
IL-17A	2.65	43,337	0.8	3	10
IFN- γ	1.84	30,164	1.2	4	6
TNF- α	5.8	59,626	1.4	3	6
IL-25*	168	98,266	9.0	9	12
IL-27p28*	63.4	117,521	29.2	9	6
ICAM-1**	2.9	23,723	0.78	4	8
TGF-β 3-Plex					
TGF- β 1	1.69	27,616	3.9	4.5	4.9
TGF- β 2	14.7	30,080	1.9	6.3	9.1
TGF- β 3	2.8	15,031	0.5	6.9	8.2

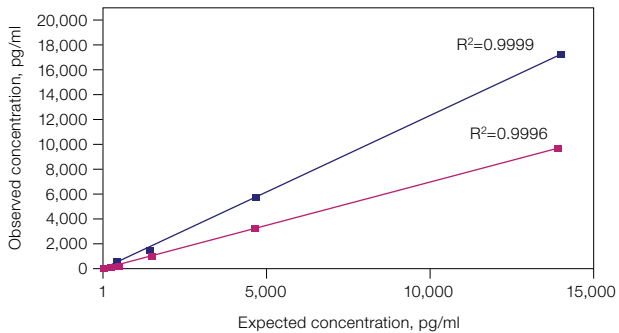


Fig. 1. Linearity of dilution determines the suitability of a standard curve for reflecting relative quantities of analyte in a complex matrix. Linearity of dilution was assessed by spiking a known quantity of recombinant antigen into native mouse serum and plasma matrices. The observed and expected concentrations within the assay working range were plotted. The correlation coefficient R^2 value reflects the linearity of dilution for the assay. Representative results from IL-23p19 are shown. ■, mouse serum; ■, mouse plasma.

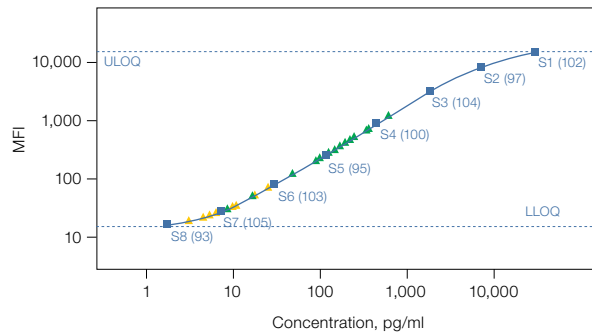


Fig. 2. IL-23p19 analyte measured in 9 unstimulated (▲) and 21 LPS-stimulated (▲) wild type mouse serum samples. All sample types fall within the upper and lower limits of quantitation. These limits are calculated by and displayed from Bio-Plex Manager™ software 6.0.

Ordering Information

Catalog #	Description	Catalog #	Description
Bio-Plex Pro Mouse Th17 Cytokine Premixed Assays			
M60-00007NY	Bio-Plex Pro Mouse Cytokine Th17 Panel A 6-Plex Group I , 1 x 96-well, includes premixed coupled magnetic beads and detection antibodies, standard, assay buffer, wash buffer, detection antibody diluent, streptavidin-PE, filter plate, flat-bottom plate, sealing tape, standard diluent, sample diluent, and instructions for the detection of 6 cytokine biomarkers (IL-1 β , IL-6, IL-10, IL-17A, IFN- γ , TNF- α)	171-GA001M	Bio-Plex Pro Mouse Cytokine CD40L Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for CD40L, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-FA001M	Bio-Plex Pro Mouse Cytokine Th17 Panel B 8-Plex Group III , 1 x 96-well, includes premixed coupled magnetic beads and detection antibodies, standard, assay buffer, wash buffer, detection antibody diluent, streptavidin-PE, filter plate, flat-bottom plate, sealing tape, standard diluent, sample diluent, and instructions for the detection of 8 cytokine biomarkers (IL-17F, IL-21, IL-22, IL-23p19, IL-31, IL-33, CD40L, MIP-3 α)	171-GA002M	Bio-Plex Pro Mouse Cytokine IL-17F Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-17F, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
Bio-Plex Pro Mouse Th17 Group I Cytokine Singleplex Sets*			
171-G5002M	Bio-Plex Pro Mouse Cytokine IL-1β Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-1 β , requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-I50001)	171-GA003M	Bio-Plex Pro Mouse Cytokine IL-21 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-21, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-G5007M	Bio-Plex Pro Mouse Cytokine IL-6 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-6, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-I50001)	171-GA004M	Bio-Plex Pro Mouse Cytokine IL-22 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-22, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-G5009M	Bio-Plex Pro Mouse Cytokine IL-10 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-10, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-I50001)	171-GA005M	Bio-Plex Pro Mouse Cytokine IL-23p19 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-23p19, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-G5013M	Bio-Plex Pro Mouse Cytokine IL-17A Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-17A, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-I50001))	171-GA006M	Bio-Plex Pro Mouse Cytokine IL-25 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-25, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-G5017M	Bio-Plex Pro Mouse Cytokine IFN-γ Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IFN- γ , requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-I50001)	171-GA007M	Bio-Plex Pro Mouse Cytokine IL-27p28 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-27p28, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-G5023M	Bio-Plex Pro Mouse Cytokine TNF-α Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for TNF- α , requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-I50001)	171-GA008M	Bio-Plex Pro Mouse Cytokine IL-31 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-31, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
Bio-Plex Pro Mouse Group I Standards			
171-I50001	Bio-Plex Pro Mouse Standard Group I , Pkg of 1 vial, cytokine standard for detecting 23 mouse cytokines	171-GA009M	Bio-Plex Pro Mouse Cytokine IL-33 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for IL-33, requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)
171-I10501	Bio-Plex Pro Mouse Standard Group I , Pkg of 50 lot-matched vials, cytokine standard for detecting 23 mouse cytokines	171-GA010M	Bio-Plex Pro Mouse Cytokine ICAM-1 Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for ICAM-1, requires reagent kit (#171-304080M high dilution reagent kit) and standards (#171-IA0001)
		171-GA011M	Bio-Plex Pro Mouse Cytokine MIP-3α Set 1 x 96-well, includes coupled magnetic beads and detection antibodies for MIP-3 α , requires reagent kit (#171-304070 for vacuum separation or 171-304070M for magnetic separation) and standards (#171-IA0001)

* Singleplex sets include coupled beads and detection antibodies. Reagent kits and standards are required to run an assay.

Catalog #	Description
Bio-Plex Pro Mouse Group III Standards	
171-IA0001	Bio-Plex Pro Mouse Standard Group III , Pkg of 1 vial, cytokine standard for detecting 11 mouse cytokines
171-IA0501	Bio-Plex Pro Mouse Standard Group III , Pkg of 50 lot-matched vials, cytokine standard for detecting 11 mouse cytokines
Bio-Plex Pro TGF-β Assays	
171-W4001M	Bio-Plex Pro TGF-β 3-Plex Assay , 1 x 96-well, includes premixed coupled magnetic beads and detection antibodies, standards, buffers, diluents, streptavidin-PE, filter plate, sealing tape, for the detection of TGF- β 1, TGF- β 2, and TGF- β 3 all in one kit
171-V4001M	Bio-Plex Pro TGF-β1 Set , 1 x 96-well, includes coupled magnetic beads and detection antibodies for detecting TGF- β 1, requires reagent kit (#171-304070 for vacuum workflow or 171-304070M for magnetic workflow) and standards (#171-X40001)
171-V4002M	Bio-Plex Pro TGF-β2 Set , 1 x 96-well, includes coupled magnetic beads and detection antibodies for detecting TGF- β 2, requires reagent kit (#171-304070 for vacuum workflow or 171-304070M for magnetic workflow) and standards (#171-X40001)
171-V4003M	Bio-Plex Pro TGF-β3 Set , 1 x 96-well, includes coupled magnetic beads and detection antibodies for detecting TGF- β 3, requires reagent kit (#171-304070 for vacuum workflow or 171-304070M for magnetic workflow) and standards (#171-X40001)
Bio-Plex Pro TGF-β Standards	
171-X40001	Bio-Plex Pro TGF-β Standards , Pkg of 1 vial, standard for detecting 3 TGF- β analytes
171-X40501	Bio-Plex Pro TGF-β Standards , Pkg of 50 lot-matched vials, standard for detecting 3 TGF- β analytes
Bio-Plex Pro Reagent Kit	
171-304070	Bio-Plex Pro Reagent Kit , 1 x 96-well, includes assay buffer, wash buffer, detection antibody diluent, streptavidin-PE, filter plate, sealing tape, standard diluent, sample diluent
171-304070M	Bio-Plex Pro Reagent Kit with Flat Bottom Plate , 1 x 96-well, includes assay buffer, wash buffer, detection antibody diluent, streptavidin-PE, flat bottom plate, sealing tape, standard diluent, sample diluent; for use with the magnetic workflow
171-304080M	Bio-Plex Pro High Dilution Reagent Kit , 1 x 96-well, includes assay buffer, wash buffer, detection antibody diluent, streptavidin-PE, flat bottom plate, filter plate, sealing tape, standard diluent, sample diluent; for use with the magnetic or vacuum workflow
Bio-Plex Pro Wash Stations and Accessories	
300-34376	Bio-Plex Pro Wash Station , includes magnetic plate carrier, waste bottle, 2 buffer bottles
300-34377	Bio-Plex Pro II Wash Station , includes magnetic plate carrier, vacuum manifold plate carrier, waste bottle, 2 buffer bottles
171-025001*	Bio-Plex Pro Flat Bottom Plates , 40 x 96-well plates
171-304500	Bio-Plex Wash Buffer , 1.5 L
171-020100	Bio-Plex Handheld Magnetic Washer , includes magnetic washer and adjustment hex tools for use in manual wash steps for all Bio-Plex magnetic assays

* Required for washing Bio-Plex Pro assays or other magnetic bead-based assays using the Bio-Plex Pro wash station.

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The Bio-Plex suspension array system includes fluorescently labeled microspheres and instrumentation licensed to Bio-Rad Laboratories, Inc. by the Luminex Corporation.



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