

Acute Phase Response
 Cancer
 Cardiovascular Disease
 Cytokine Chemokines,
 Growth Factors
 Diabetes
 Gene Expression
 Genotyping
 Immunoglobulin Isotyping
 MicroRNA Expression
 Signal Transduction
 Toxicology

Bio-Plex® Precision Pro™ Human Cytokine Assay Panel

MAGNETIC SEPARATION ENABLED

Human IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-10, IL-12 (p70), IL-13, IFN- γ , TNF- α

- Sensitivity and reproducibility
- Convenient kit format
- Magnetic or vacuum separation



Precise Multiplex Measurement

The Bio-Plex Precision Pro human cytokine assay panel accurately measures 10 commonly assayed cytokines, delivering highly reproducible results and exceptional sensitivity. Expert support, quality reagents, and provided controls ensure consistent results from one experiment to the next.

Use the Bio-Plex Precision Pro human cytokine assay panel to:

- Measure confidently with high precision and sensitivity
- Ensure data consistency
- Obtain results with minimal time and effort

Representative Working Assay Range

Analyte	Serum	Plasma
IL-1 β	0.2–516	0.2–566
IL-2	2.7–4,599	4.5–4,570
IL-4	0.3–2,611	0.2–2,611
IL-5	3.7–1,354	5.0–4,355
IL-6	1.7–16,058	5.2–18,618
IL-10	0.7–8,591	1.1–11,850
IL-12 (p70)	0.6–3,993	1.7–3,994
IL-13	0.2–1,745	0.3–2,406
IFN- γ	0.5–1,814	0.7–1,814
TNF- α	0.2–1,423	0.2–2,059

Magnetic Bead-Based Assays

Magnetic bead-based assays allow optional magnetic separation and automation of wash steps. This innovation greatly simplifies assay processing, eliminating the need for a vacuum manifold.

Time-Saving Kit Format

- All-in-one kit
- Fewer dilution steps
- Short incubation times
- Complete protocol in less than 2 hours

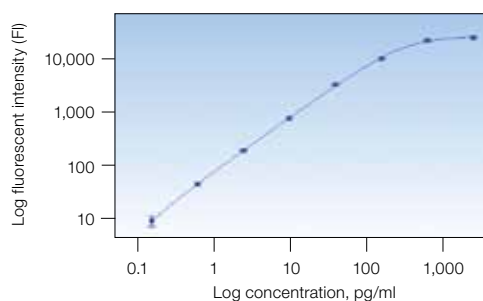
Performance Characteristics

Specifications at High PMT Settings

Limit of detection	≤1 pg/ml
Precision	
Intra-assay CV	<10%
Inter-assay CV	<15%
Accuracy (% recovery)	80–120%
Cross-reactivity	≤1%
Matrices	Plasma, serum, culture supernatant, lysates, homogenates, and other biological fluids

High Precision and Sensitivity

High precision describes strong agreement between multiple measurements of the same sample. Improved sensitivity refers to how small a value you can reliably measure. Higher sensitivity is achieved only when precision is improved at lower concentrations, a characteristic feature of Bio-Plex Precision Pro assays.



Precision measurements of IL-13. Low %CVs and standard deviations are indicators of high precision. High precision at low concentrations demonstrates the sensitivity of the Bio-Plex Precision Pro human cytokine assay.

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Reproducible and Accurate Results

Details of assay parameters for different targets. Note the low %CV between experiments and the high consistency in results as demonstrated by percent recoveries close to 100%.

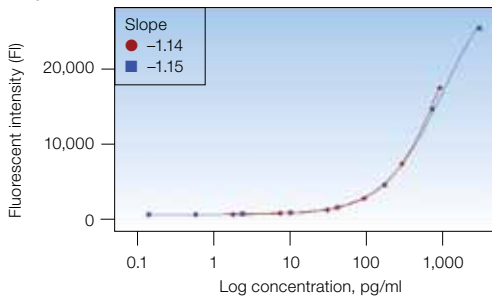
Target	LOD*	Inter-Assay %CV*	% Recovery**		
			111 pg/ml	9.3 pg/ml	2.3 pg/ml
IL-1 β	0.10	6.1	98	106	98
IL-2	0.64	5.7	96	100	94
IL-4	0.17	9.6	104	107	102
IL-5	0.88	10.0	94	96	67
IL-6	0.29	9.6	100	100	104
IL-10	0.17	6.1	100	106	100
IL-12 (p70)	0.37	5.4	99	98	88
IL-13	0.19	6.4	97	100	97
INF- γ	0.35	4.7	100	103	99
TNF- α	0.20	9.1	102	107	105

* Limit of detection (LOD) and inter-assay %CV were obtained from plasma. Inter-assay %CV was determined from 5 separate experiments (in duplicate) at a concentration of 9.3 pg/ml.

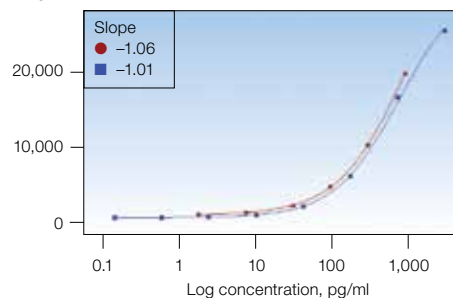
** % Recovery, observed concentration/expected x 100. % Recovery was determined by adding a known amount of protein to plasma standard diluent at each of the indicated concentrations.

Highly Consistent Results With Rigorous Standards and Quality Reagents

IL-5



IL-6



Examples of parallelism between 8-point standard dilution (■) and 6-point spiked plasma sample dilutions (●) using 4-PL curve fitting. 4-PL curve fitting was used because a 6-point and an 8-point standard curve were compared. Slopes were <10% different for all analytes in kit. Parallelism of curves and similar slopes indicate minimal matrix effects.

Data Analysis

Bio-Plex Precision Pro human cytokine assays can be analyzed using Bio-Plex Manager™ software version 4.0 and higher, as well as the Luminex xPONENT package and other software. When using other software, including Bio-Plex Manager 3.0 and those provided by Luminex, contact Technical Support or your Bio-Rad field applications specialist for more information.

For a current listing of Bio-Plex assays, visit us on the Web at www.bio-rad.com/bio-plex.

Ordering Information

Catalog #	Description
171-A1001P*	Bio-Plex Precision Pro Human Cytokine 10-Plex Panel , 1 x 96-well, includes coupled beads, detection antibodies, standards, controls, assay buffer, wash buffer, detection antibody diluent, streptavidin-PE, filter plate, sealing tape, serum standard diluent, plasma standard diluent, and sample diluent for the detection of IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-10, IL-12 (p70), IL-13, INF- γ , TNF- α .

* All-in-one assay does not require separate reagent and diluent kits.

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