

One of the most prominent toxicities associated with cancer immunotherapies is cytokine-release syndrome (CRS), which can be fatal if not properly identified and managed. Bio-Techne offers the most extensive portfolio of immunoassay platforms on the market for measuring CRS-associated inflammatory cytokines. Whether you need qualitative or quantitative results, have limited sample, require single or multianalyte analysis, you will be able to find an optimal solution from Bio-Techne.

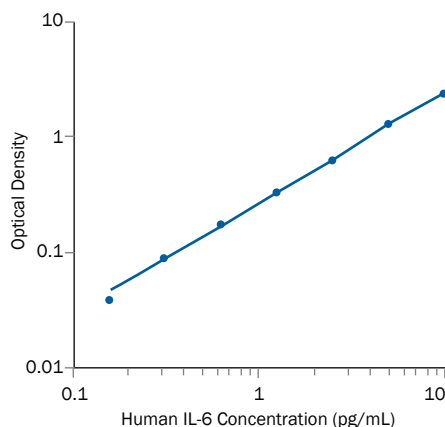
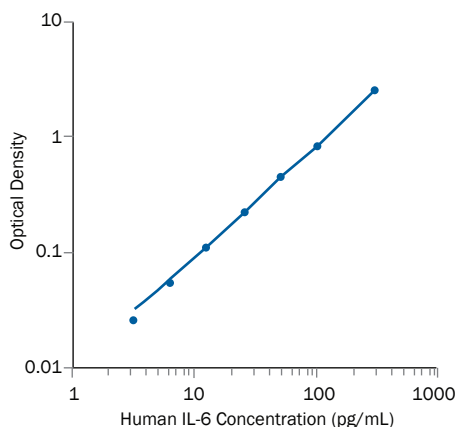
## Single Analyte Assay to Measure CRS

Our Quantikine® ELISA kits are the most trusted, most published ELISAs on the market. They perform as expected every time because of our extensive assay development expertise and rigorous quality control.

Molecule	Species	Catalog #
CRP	Human	DCRP00
	Mouse	MCRP00
GM-CSF	Human	DGM00
	Human (High Sensitivity)	HSGM0
	Mouse	MGM00
IFN-γ	Human	DIF50
	Mouse	MIF00

Molecule	Species	Catalog #
IL-1β	Human	DLB50
	Human (High Sensitivity)	HSLB00D
	Mouse	MLB00C
IL-6	Human	D6050
	Human (High Sensitivity)	HS600B
	Mouse	M6000B

Molecule	Species	Catalog #
IL-10	Human	D1000B
	Human (High Sensitivity)	HS100C
	Mouse	M1000B
TNF-α	Human	DTA00C
	Human (High Sensitivity)	HSTA00E
	Mouse	MTA00B
	Mouse (High Sensitivity)	MHSTA50



Quantikine® High Sensitivity ELISAs are optimized to detect low cytokine levels. For example, the standard Human IL-6 Quantikine® ELISA (Catalog # D6050) has an assay range of 3.1–300 pg/mL (left). The Quantikine® High Sensitivity Human IL-6 ELISA (Catalog # HS600B) has an assay range of 0.2–10 pg/mL (right).

Learn more | [rndsystems.com/elisas](https://rndsystems.com/elisas)

## Multiplex Assays to Monitor CRS

### R&D Systems® Luminex® Assays and Instruments

Luminex® Assays offer flexibility, require only a small sample volume (<50 µL), and are a cost-effective multiplexing option. Select one of our highly-optimized High Performance Assays or choose from our selection of over 340 analytes and build your own panel of up to 100 analytes.

Luminex® instruments can be obtained from Bio-Techne. Please contact a Bio-Techne sales representative for more information: [sales@bio-techne.com](mailto:sales@bio-techne.com)

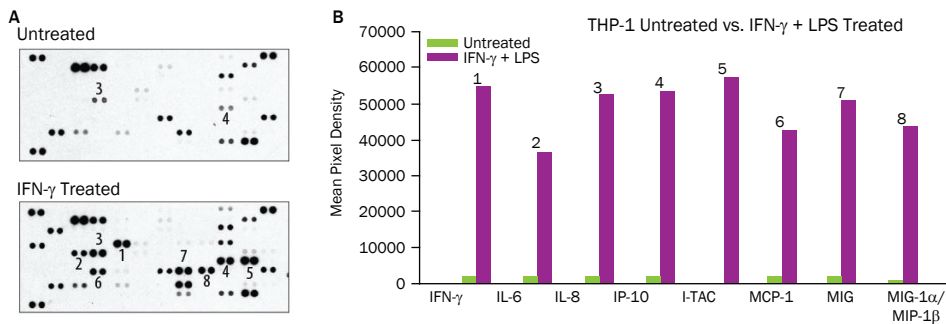
High Performance Panel	Analytes
Human Cytokine Panel A	CCL2/MCP-1 • CCL3/MIP-1α • CCL4/MIP-1 β • CCL5/RANTES • CXCL5 ENA-78 • CXCL8/IL-8 • FGF basic • <b>G-CSF</b> • <b>GM-CSF</b> • <b>IFN-γ</b> • IL-1α/IL-1F1 • IL-1β/IL-1F2 • IL-1ra/IL-1F3 • IL-2 • IL-4 • IL-5 • <b>IL-6</b> • <b>IL-10</b> • IL-17 • TNF-α • Thrombopoietin/Tpo • VEGF
Human High Sensitivity Cytokine Panel A	CXCL8/IL-8 • <b>GM-CSF</b> • <b>IFN-γ</b> • IL-1α/IL-1F2 • IL-2 • IL-4 • IL-5 • <b>IL-6</b> • <b>IL-10</b> • IL-12 p70 • TNF-α • VEGF
Human High Sensitivity Cytokine Panel B	<b>GM-CSF</b> • <b>IFN-γ</b> • IL-1β/IL-1F2 • IL-2 • IL-5 • <b>IL-6</b> • IL-7 • IL-13 • IL-15 • IL-17A • IL-17F • IL-22 • IL-23 • IL-31 • IL 33 • IL-36β • TNF-α

Bold orange: CRS analyte

Learn more | [rndsystems.com/luminex](https://rndsystems.com/luminex)

## Proteome Profiler™ Antibody Arrays

Analyze the expression levels of up to 111 cytokines simultaneously, using only standard Western blotting equipment. Save time and discover novel responses with this unbiased approach.



(A) THP-1 human acute monocytic leukemia cells were untreated or treated with 1  $\mu\text{g}/\text{mL}$  of recombinant human IFN- $\gamma$  (Catalog #285-IF) for 16 hours and 1  $\mu\text{g}/\text{mL}$  of LPS for 8 hours. Supernates were analyzed using the Proteome Profiler™ Human XL Cytokine Array kit (Catalog # ARY022B). (B) Quantification of mean pixel density. IFN- $\gamma$  +LPS treatment induced robust cytokine expression in THP-1 cells.

Learn more | [rndsystems.com/proteomeprofiler](http://rndsystems.com/proteomeprofiler)

## SimplePlex™ Assays

Transform the way you monitor CRS. These multianalyte assays are run on our Ella machine, and are fully automated, fast and quantitative. Measure key CRS analytes, like IL-6, IFN- $\gamma$ , IL-10, GM-CSF, and CRP, in only 60 minutes!

- Quantify up to 4 analytes in a single 25  $\mu\text{L}$  sample. Ella is sensitive enough to detect sub-picogram levels of protein and has a 4–5 log dynamic range to detect low abundance analytes.
- Setup only takes 5 minutes. You simply pipette your samples into the cartridge, which automates the entire assay. Data is ready in 60 minutes.
- Over 170 human analytes are currently available. Just let us know what you need!



### SimplePlex™ assays correlate well with Quantikine® ELISAs!

Molecule	Species	Limit of Quantitation (pg/mL)	Correlation with Quantikine ELISA
CD25/IL-2 R $\alpha$	Human	3.14–3920	R <sup>2</sup> >0.9
CRP	Human	4.55–50550	R <sup>2</sup> >0.9
GM-CSF	Human	0.750–6730	R <sup>2</sup> >0.9
IFN- $\gamma$	Human	1.16–6050	R <sup>2</sup> >0.9
IL-1 $\beta$	Human	0.21–840	R <sup>2</sup> >0.9

Molecule	Species	Limit of Quantitation (pg/mL)	Correlation with Quantikine ELISA
IL-10	Human	0.46–5530	R <sup>2</sup> >0.9
IL-6	Human	0.41–3850	R <sup>2</sup> >0.9
IL-6RA	Human	1.10–4875	R <sup>2</sup> >0.9
TNF- $\alpha$	Human	1.14–2900	R <sup>2</sup> >0.9

Learn more | [rndsystems.com/simpleplexmenu](http://rndsystems.com/simpleplexmenu)

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TOCRIS

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