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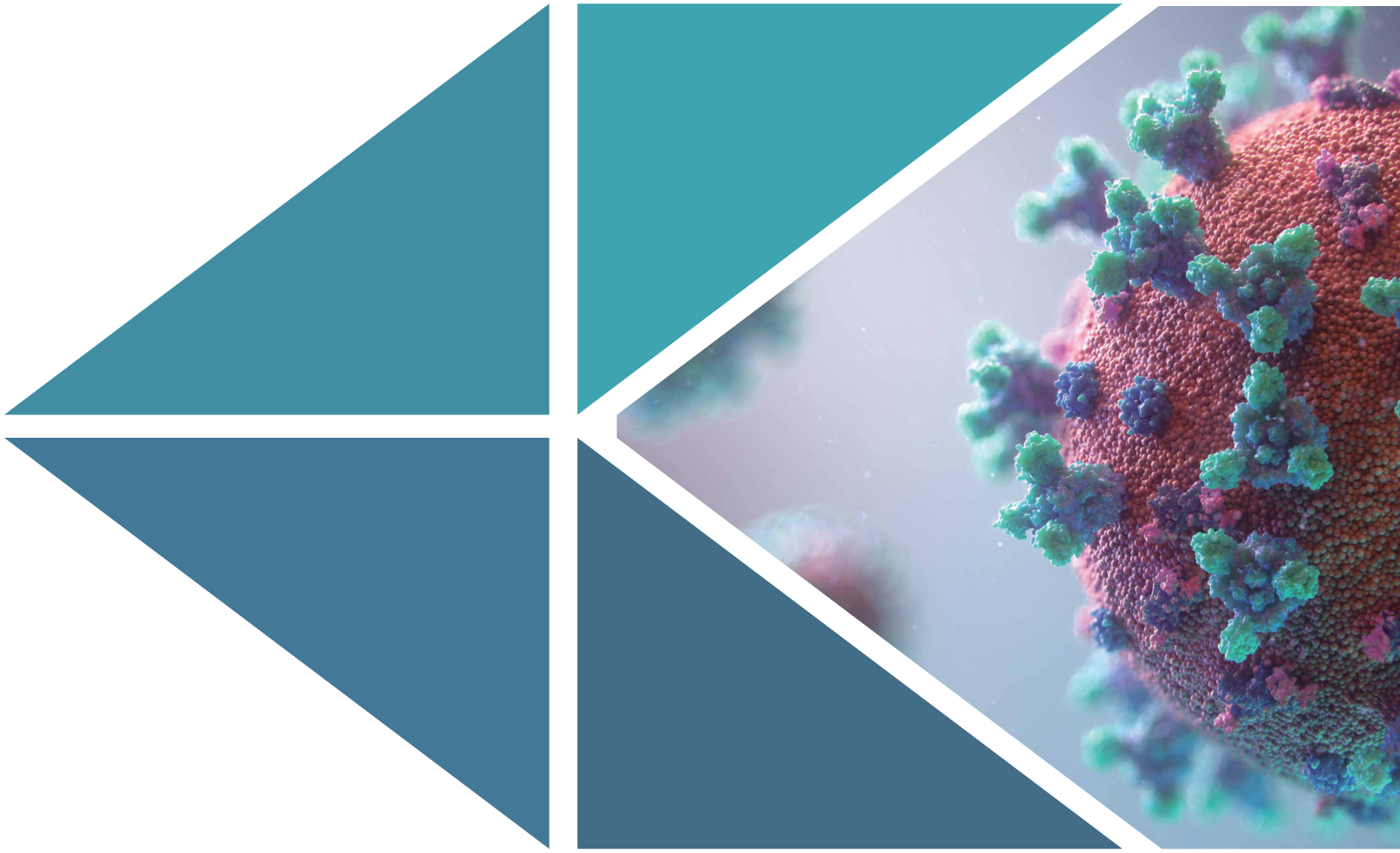

DiaCarta™ Plex Immunoassays

Overview

Multiplex Immunoassays overcome the limitations of single-analyte ELISA by using antigen-antibody interactions to measure multiple targets or analytes using beads format in a single well. They are widely used in life science research and pharmaceutical drug discovery.

The applications of the assays include, but are not limited to:

- Quantification of immune responses
- Identification and tracking of cancer biomarkers
- Characterization of cellular products for cell and gene therapy
- Discovery and study of a set of biomarkers contributing to a specific disease or indicating responses to medical treatment
- Basic research in a variety of areas to understand the mechanism and processes

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DiaCarta™ Plex assays are magnetic bead-based multiplex immunoassays

Each assay can analyze up to 21 protein targets simultaneously in a single well using only 15 μL of serum, plasma, other body fluids, or cell culture supernatants. The magnetic beads used in our assays are colored with a unique combination of two fluorescence dyes at different concentrations which can be analyzed by Luminex instruments or by any standard flow cytometers, including the high-end Cytek Aurora.

Researchers can use DiaCarta™ Plex kits in a fixed design panel or can cherry-pick the panels of their own interest.

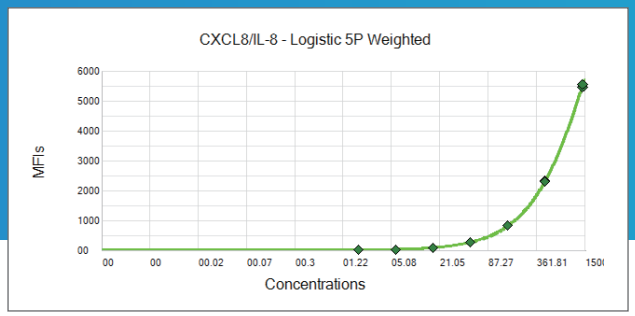


Figure 1: Target IL-8 standard curves plotted based on Luminex MAGPIX (left top and bottom panels) and on Cytek Aurora (right top and bottom panels). Both platforms show comparable results.

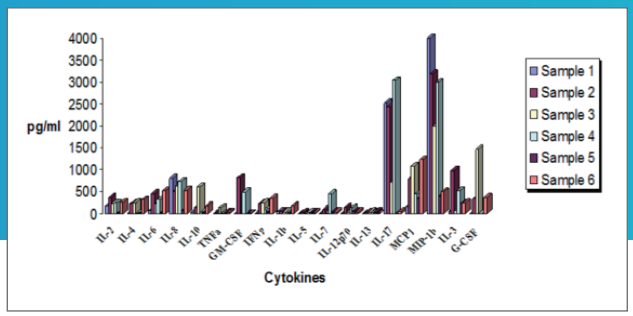
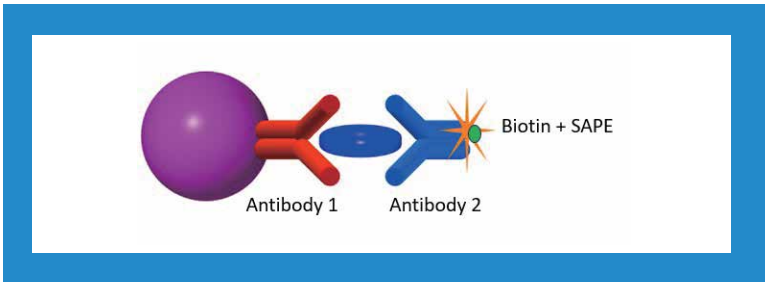


Figure 2: The 18 cytokine levels in the plasma of 6 different cancer patients detected by Luminex 200.

How does DiaCarta™ Plex work?

The DiaCarta Plex Immunoassay is based on the principles of sandwich ELISA. In the assay, fluorescent dye coded magnet beads, conjugated with target-specific antibodies, bind the proteins of interest such as a cytokine during the initial 60-minute incubation step. The following steps consist of a 30-minute hybridization with biotinylated antibody against a secondary epitope of the protein and a subsequent 10-minute streptavidin phycoerythrin (SAPE) incubation step. The fluorescent intensity of SAPE on the beads is measured with a standard Luminex instrument or a flow cytometer equipped with a 488nm laser. The amount of the targeted protein in a sample can be quantified using a standard curve.



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Available Premixed DiaCarta™ Plex Kit Formats

Each premixed DiaCarta™ Plex Kit has a predefined panel with premixed antibody-conjugated beads, antigens and detection antibodies.

- Most assays are available in both 96- and 32-test sizes
- All the reagents are ready to use
- Each kit contains a sample matrix-matching Diluent Kit, which must be ordered separately according to the sample type. The Diluent Kit contains sample-type specific Standard Diluent and sample Assay Buffer.

Researchers can order a premixed panel with a subset of targets or a customized kit tailored to their specific purpose.

Assay Specifications

Sample types	Cell culture supernatant, serum, plasma, bodily fluid and tissue/cell lysate
Sensitivity (LOD)	Majority of the assays < 10 pg/mL
Quantitation range	• LLOQ: Majority of the assays < 20 pg/mL • ULOQ: Majority of the assays > 5,000 pg/mL
Standard dose recovery	70-130%
Precision	• Intra-assay CV: < 10% • Inter-assay CV: < 20%
Cross-reactivity of analytes in a panel or group	Negligible
Sample volume	15 µL

With the most popular targets, DiaCarta™ Plex assays can serve most research needs. Whether you study inflammation, immunology, cytokine profiling or apoptosis, you can always rely on the accuracy, sensitivity, reproducibility, and versatility of DiaCarta™ Plex assays to gain deeper insight to uncover complex biological processes.

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Human Cytokine 21-Plex Panel

Abbreviation	Human Cytokine 21-Plex Panel contains the targets
CCL2	MCP-1 (Monocyte Chemoattractant Protein-1)
CCL3	MIP-1 alpha (Macrophage Inflammatory Protein-1 alpha)
CCL4	MIP-1 beta (Macrophage Inflammatory Protein-1 beta)
CCL5	RANTES (Regulated on Activation, Normal T Cell Expressed and Secreted)
CSF2	GM-CSF (Granulocyte-Macrophage Colony-Stimulating Factor)
CXCL10	IP-10 (Interferon gamma-induced Protein 10)
IL1A	IL-1 alpha (Interleukin-1 alpha)
IL1B	IL-1 beta (Interleukin-1 beta)
IL4	IL-4 (Interleukin-4)
IL6	IL-6 (Interleukin-6)
IL8	IL-8 (Interleukin-8)
IL10	IL-10 (Interleukin-10)
IL12B	IL-12p70 (Interleukin-12)
IL13	IL-13 (Interleukin-13)
IL17A	IL-17A (Interleukin-17A)
IFNA1	IFN alpha (Interferon alpha)
IFNG	IFN gamma (Interferon gamma)
ICAM1	ICAM-1 (Intercellular Adhesion Molecule-1)
SELE	E-Selectin
SELP	P-Selectin
TNF	TNF alpha (Tumor Necrosis Factor alpha)

Human Cytokine 21-Plex Panel	Catalog Number
32 tests	DC-21-0001R
96 tests	DC-21-0002R
Sample Matrix Matching Diluent Kit	DC-21-0009R

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Human Inflammation 16-Plex Panel

Abbreviation	Human Inflammation 16-Plex Panel contains the targets
IL1A	IL-1 alpha (Interleukin-1 alpha)
IL1B	IL-1 beta (Interleukin-1 beta)
IL6	IL-6 (Interleukin-6)
IL8	IL-8 (Interleukin-8)
IL10	IL-10 (Interleukin-10)
IL12B	IL-12p70 (Interleukin-12)
IL13	IL-13 (Interleukin-13)
IL17A	IL-17A (Interleukin-17A)
IL27	IL-27 (Interleukin-27)
IL31	IL-31 (Interleukin-31)
IL33	IL-33 (Interleukin-33)
CXCL10	IP-10 (Interferon gamma-induced Protein 10)
CCL2	MCP-1 (Monocyte Chemoattractant Protein-1)
CCL3	MIP-1 alpha (Macrophage Inflammatory Protein-1 alpha)
TNF	TNF alpha (Tumor Necrosis Factor alpha)
IFNG	IFN gamma (Interferon gamma)

Human Inflammation 16-Plex Panel	Catalog Number
Pack Size: 32 Tests	DC-21-0003R
Pack Size: 96 Tests	DC-21-0004R
Sample Matrix Matching Diluent Kit	DC-21-0010R

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Mouse Cytokine 21-Plex Panel

Abbreviation	Mouse Cytokine 21-Plex Panel contains the targets
Ccl2	MCP-1 (Monocyte Chemoattractant Protein-1)
Ccl3	MIP-1 alpha (Macrophage Inflammatory Protein-1 alpha)
Ccl4	MIP-1 beta (Macrophage Inflammatory Protein-1 beta)
Ccl5	RANTES (Regulated on Activation, Normal T Cell Expressed and Secreted)
Ccl7	MCP-3 (Monocyte Chemoattractant Protein-3)
Ccl11	Eotaxin
Csf2	GM-CSF (Granulocyte-Macrophage Colony-Stimulating Factor)
Cxcl1	GRO alpha (Growth-Regulated Oncogene alpha)
Cxcl10	IP-10 (Interferon gamma-induced Protein 10)
Ifng	IFN gamma (Interferon gamma)
Il1b	IL-1 beta (Interleukin-1 beta)
Il2	IL-2 (Interleukin-2)
Il4	IL-4 (Interleukin-4)
Il6	IL-6 (Interleukin-6)
Il12b	IL-12p70 (Interleukin-12)
Il13	IL-13 (Interleukin-13)
Il9	IL-9 (Interleukin-9)
Il10	IL-10 (Interleukin-10)
Il17a	CTLA-8 (Interleukin-17A)
Il22	IL-22 (Interleukin-22)
Tnf	TNF alpha (Tumor Necrosis Factor alpha)

Mouse Cytokine 21-Plex Panel	Catalog Number
32 tests	DC-21-0005R
96 tests	DC-21-0006R
Sample Matrix Matching Diluent Kit	DC-21-0011R

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Mouse Inflammation 16-Plex Panel

Abbreviation	Mouse Inflammation 16-Plex Panel contains the targets
Ifng	IFN gamma (Interferon gamma)
Il1a	IL-1 alpha (Interleukin-1 alpha)
Il1b	IL-1 beta (Interleukin-1 beta)
Il6	IL-6 (Interleukin-6)
Il9	IL-9 (Interleukin-9)
Il10	IL-10 (Interleukin-10)
Il12b	IL-12p70 (Interleukin-12)
Il13	IL-13 (Interleukin-13)
Il15	IL-15 (Interleukin-15)
Cxcl1	KC (Keratinocyte Chemoattractant)
Cxcl10	IP-10 (Interferon gamma-induced Protein 10)
Ccl2	MCP-1 (Monocyte Chemoattractant Protein-1)
Ccl3	MIP-1 alpha (Macrophage Inflammatory Protein-1 alpha)
Ccl4	MIP-1 beta (Macrophage Inflammatory Protein-1 beta)
Ccl5	RANTES (Regulated on Activation, Normal T Cell Expressed and Secreted)
Tnf	TNF alpha (Tumor Necrosis Factor alpha)

Pack Size for Mouse Inflammation 16-Plex Panel	Catalog Number
32 tests	DC-21-0007R
96 tests	DC-21-0008R
Sample Matrix Matching Diluent Kit	DC-21-0012R

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Make a customized panel?
Contact DiaCarta at order@diacarta.com
to place the order

- In your email, please specify your targets/analytes, pack size (32-test or 96-test), and your matrix.
- All customized panels require 10 business days for production. Researchers are required to pay 50% of the total cost upfront to initiate panel production, with the remaining balance due upon delivery.

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