

Acute Phase Response
Cancer
 Cardiovascular Disease
 Cytokine Chemokines,
 Growth Factors
 Diabetes
 Gene Expression
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 Toxicology

Bio-Plex Pro™ Human Angiogenesis Assay Panel

MAGNETIC SEPARATION ENABLED

Angiopoietin-2, Follistatin, G-CSF, HGF, IL-8, Leptin, PDGF-BB, PECAM-1, and VEGF

- Detects 9 angiogenesis biomarkers in a single multiplex assay
- Includes unique xMAP targets — angiopoietin-2, follistatin, and PECAM-1
- Contains standards and controls



Detection of Angiogenesis Biomarkers

Angiogenesis is defined as the formation of new blood vessels from preexisting blood vessels. This process is considered natural during wound healing, pregnancy, and the female reproductive cycle. Angiogenesis becomes pathological during early tumor formation and promotes tumor progression and metastasis. Angiogenesis research involves the measurement and monitoring of a host of protein targets that either induce or suppress the growth of blood vessels. Many of these targets can be measured by the Bio-Plex Pro human angiogenesis 9-plex assay panel.

Features

The Bio-Plex Pro human angiogenesis 9-plex panel is a magnetic bead-based multiplex assay that offers excellent performance for the detection of the following angiogenesis biomarkers in diverse matrices: angiopoietin-2, follistatin, G-CSF, HGF, IL-8, leptin, PDGF-BB, PECAM-1, and VEGF. The multiplexing feature of the assay makes it possible to quantitate the level of multiple angiogenesis targets in a single well of a 96-well microplate in just 3 hours, using as little as 12.5 µl of serum, plasma, or other matrices.

For more information, visit us on the Web at www.bio-rad.com/bio-plex/

Magnetic Bead-Based Assays

These 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.

Performance Characteristics

Specifications at Standard PMT Setting

Precision	
Intra-assay CV	≤15%
Inter-assay CV	≤25%
Accuracy (% recovery)	70–130%
Cross-reactivity	Negligible
Matrices	Serum, plasma, cell culture

8-Point Standard Curves

In a study designed to evaluate Bio-Plex Pro human angiogenesis assay performance in cancer samples, the standard curve for each target was generated in duplicate from eight independent assays in serum (Figure 1).

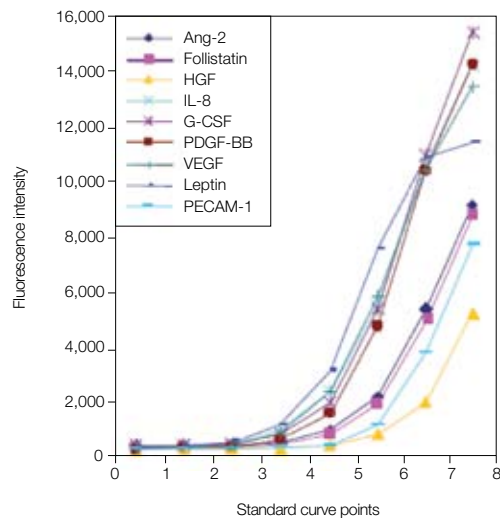


Fig. 1. Standard curves in serum for each target.



Representative Working Assay Range, Sensitivity, and Standardization

Target	Working Assay Range*	Sensitivity	WHO Standard Reference #	WHO Units/Bio-Rad μ g
Angiopoietin-2	500–32,000 pg/ml	≤ 50 pg/ml	**	**
Follistatin	100–32,000 pg/ml	≤ 15 pg/ml	**	**
G-CSF	2–32,000 pg/ml	≤ 10 pg/ml	88/502	207,000 (IU)
HGF	100–32,000 pg/ml	≤ 30 pg/ml	96/564	690 (IU)
IL-8	2–32,000 pg/ml	≤ 2 pg/ml	89/520	840 (IU)
Leptin	100–32,000 pg/ml	≤ 50 pg/ml	97/594	520 (IU)
PDGF-BB	100–32,000 pg/ml	≤ 7 pg/ml	94/728	375 (RU)
PECAM-1	1,000–32,000 pg/ml	≤ 120 pg/ml	**	**
VEGF	2–32,000 pg/ml	≤ 10 pg/ml	02/286	750 (RU)

* Lower limit of quantitation – upper limit of quantitation. ** WHO standard is not available. IU, international units; RU, research units.

Biomarker Levels in Cancer Samples

Representative data on the changes in biomarker levels from sera of different cancer groups using the Bio-Plex Pro human angiogenesis 9-plex assay panel are illustrated below (Figure 2).

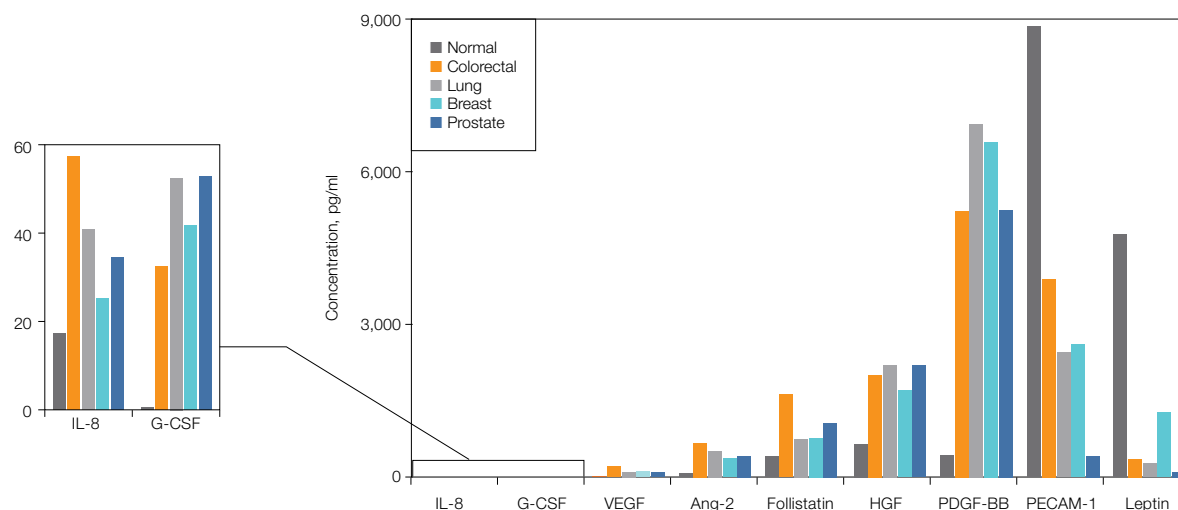


Fig. 2. Changes in biomarker levels from sera of different cancer groups. Median concentration values are represented.

Data Analysis

Bio-Plex Pro human angiogenesis assays can be analyzed using Bio-Plex Manager™ software version 4.0 and higher, as well as Luminex xPONENT 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.

Ordering Information

Catalog #	Description
171-A4S11M	Bio-Plex Pro Human Angiogenesis 9-Plex Panel Complete Kit* , 1 x 96-well
171-A4011M	Bio-Plex Pro Human Angiogenesis 9-Plex Panel , 1 x 96-well, includes coupled beads, detection antibodies, and standards for the detection of angiopoietin-2, follistatin, G-CSF, HGF, IL-8, leptin, PDGF-BB, PECAM-1, and VEGF
171-F4012M	Bio-Plex Pro Human Angiogenesis 9-Plex Panel , 10 x 96-well, includes coupled beads, detection antibodies, and standards for the detection of angiopoietin-2, follistatin, G-CSF, HGF, IL-8, leptin, PDGF-BB, PECAM-1, and VEGF
171-304060	Bio-Plex Pro Angiogenesis Reagent Kit , 1 x 96-well, includes Bio-Plex reagent kit and angiogenesis instruction manual
171-304061	Bio-Plex Pro Angiogenesis Reagent Kit , 10 x 96-well, includes Bio-Plex reagent kit and angiogenesis instruction manual
171-305000	Bio-Plex Human Serum Diluent Kit , 1 x 96-well, includes sample diluent, standard diluent

* For simplified ordering, the complete kit includes the angiogenesis panel, angiogenesis reagent kit, and serum diluent kit.

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