Overview

Product name: Human PlGF ELISA Kit
Detection method: Colorimetric

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>8</td>
<td></td>
<td></td>
<td>4.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>3</td>
<td></td>
<td></td>
<td>2%</td>
</tr>
</tbody>
</table>

Sample types: Cell culture supernatant, Urine, Serum, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type: Sandwich (quantitative)

Sensitivity: 4.4 pg/ml

Range: 15.63 pg/ml - 1000 pg/ml

Recovery: Sample specific recovery

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell culture supernatant</td>
<td>113</td>
<td>112% - 114%</td>
</tr>
<tr>
<td>Urine</td>
<td>86</td>
<td>83% - 91%</td>
</tr>
<tr>
<td>Serum</td>
<td>86</td>
<td>85% - 88%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>98</td>
<td>93% - 101%</td>
</tr>
<tr>
<td>Hep Plasma</td>
<td>102</td>
<td>98% - 105%</td>
</tr>
</tbody>
</table>
**Sample type** | **Average %** | **Range**
---|---|---
EDTA Plasma | 99 | 96% - 103%
Cit plasma | 93 | 92% - 94%

**Assay time** 1h 30m  
**Assay duration** One step assay  
**Species reactivity** **Reacts with:** Human  
**Product overview**  
Human PIGF ELISA Kit (ab260056) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of PIGF protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, serum, urine, and cell culture media. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human PIGF with 4.4 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less  
- High sensitivity, specificity and reproducibility from superior antibodies  
- Fully validated in biological samples  
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (ab203359) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

**Notes**  
PIGF (placenta growth factor) is a secreted growth factor active in angiogenesis and endothelial cell growth, stimulating their proliferation and migration. Four PIGF isoforms are produced by alternative splicing, three of them are present in placental tissue. Only PIGF-1 is found in the colon and mammary carcinomas. PIGF-3 binds to the receptor FLT1/VEGFR-1. Isoform PIGF-2 binds NRP1/neuropilin-1 and NRP2/neuropilin-2 in a heparin-dependent manner.

**Platform** Pre-coated microplate (12 x 8 well strips)

**Properties**

**Storage instructions** Store at +4°C. Please refer to protocols.

<table>
<thead>
<tr>
<th><strong>Components</strong></th>
<th><strong>1 x 96 tests</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Human PIGF Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Human PIGF Detector Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Wash Buffer PT (ab206977)</td>
<td>1 x 20ml</td>
</tr>
</tbody>
</table>
Function
Growth factor active in angiogenesis and endothelial cell growth, stimulating their proliferation and migration. It binds to the receptor FLT1/VEGFR-1. Isoform PlGF-2 binds NRP1/neuropilin-1 and NRP2/neuropilin-2 in a heparin-dependent manner.

Tissue specificity
While the three isoforms are present in most placental tissues, PlGF-2 is specific to early (8 week) placenta and only PlGF-1 is found in the colon and mammary carcinomas.

Sequence similarities
Belongs to the PDGF/VEGF growth factor family.

Domain
Isoform PlGF-2 contains a basic insert which acts as a cell retention signal.

Post-translational modifications
N-glycosylated.

Cellular localization
Secreted. The three isoforms are secreted but PlGF-2 appears to remain cell attached unless released by heparin.

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.
The PIGF standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

The concentrations of PIGF were measured in duplicates, interpolated from the PIGF standard curves and corrected for sample dilution. Undiluted samples are as follows: pregnant serum 50% and JAR cell culture supernatant 5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean PIGF concentration was determined to be 1,147 pg/mL in neat pregnant serum and 11,000 pg/mL in neat JAR cell culture supernatant.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean PIGF concentration was determined to be 38.42 pg/mL in detectable samples with a range of ND – 44.05 pg/mL for all samples.
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