

Placental Growth Factor

Overview

Summary

Placental growth factor (PIGF) is primarily expressed in the placenta, but it can also be found in low levels in other tissues such as the heart, lung, thyroid, bone, liver, and skeletal muscle. PIGF is a member of the vascular endothelial growth factor family (VEGF). Its key role is to promote angiogenesis in the placenta, contributing to the development and maturation of the vascular system. In other tissues, PIGF promotes angiogenesis in response to pathological ischemia or injury.

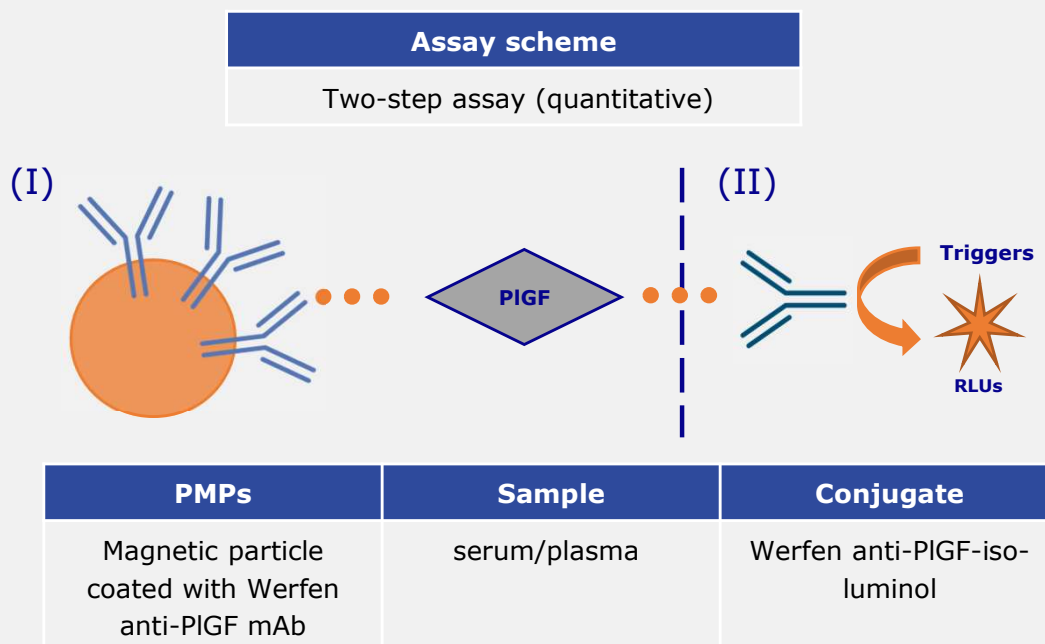
Clinical

In clinical laboratory settings, measuring the circulating levels of PIGF is crucial in diagnosing preeclampsia, along with other medical parameters. Preeclampsia is responsible for 10-15% of maternal deaths worldwide, according to the World Health Organization (WHO)¹. PIGF levels are significantly lower in women with preeclampsia than in those with normal pregnancies or gestational hypertension (high blood pressure during pregnancy without signs of organ damage).

PIGF CLIA RUO prototype

Assay Scheme

Quantitative detection of Placental Growth Factor (PIGF) in human serum/plasma



¹ World Health Organization (WHO). (2019). Maternal Mortality. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>

Dose-response in PIGF RUO prototype

PIGF CLIA RUO Prototype Dose response

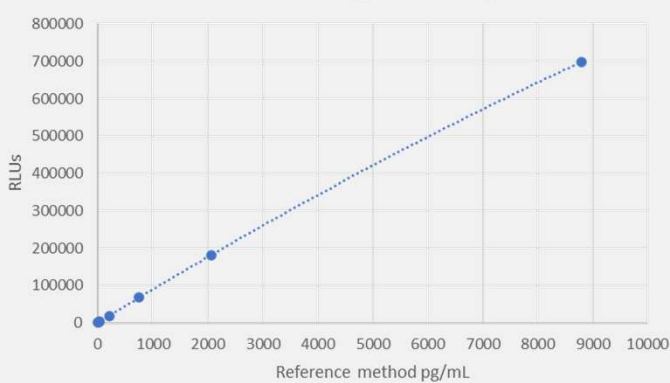


Figure 1. Calibration curve for CLIA RUO prototype using Werfen mAbs. Anti-PIGF mAb (1) was used for coating PMPs and Anti-PIGF mAb (2) labeled with Iso-luminol was used as a detector. Recombinant PIGF diluted in serum at different concentrations was used as a calibrator sample set. Dose response curve shows reactivity of the different calibrator samples plotted against the concentration obtained with a reference method (measured in pg/mL).

Calibrator Sample	pg/mL*	RLU's
S0	3	568
S1	12	1,618
S2	41	4,085
S3	210	18,108
S4	756	68,517
S5	2069	181,964
S6	8792	698,262

*Concentration of the calibrator samples obtained with a reference method

Assay Range	S6/S0	1,299
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Table 1. Numerical results dose-response calibration curve. Signal-to-noise and assay range performance evaluation.

Method Comparison of PIGF RUO prototype vs reference assay

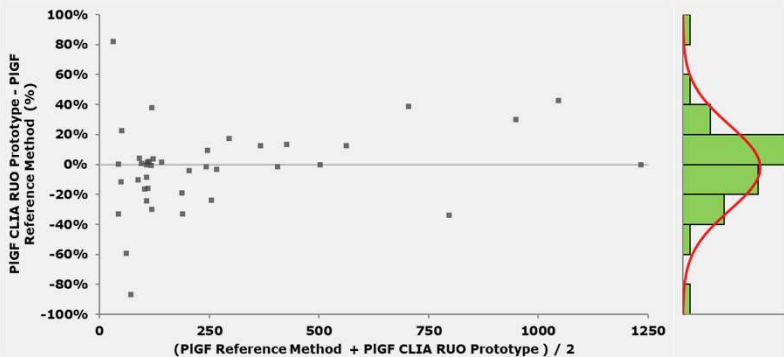
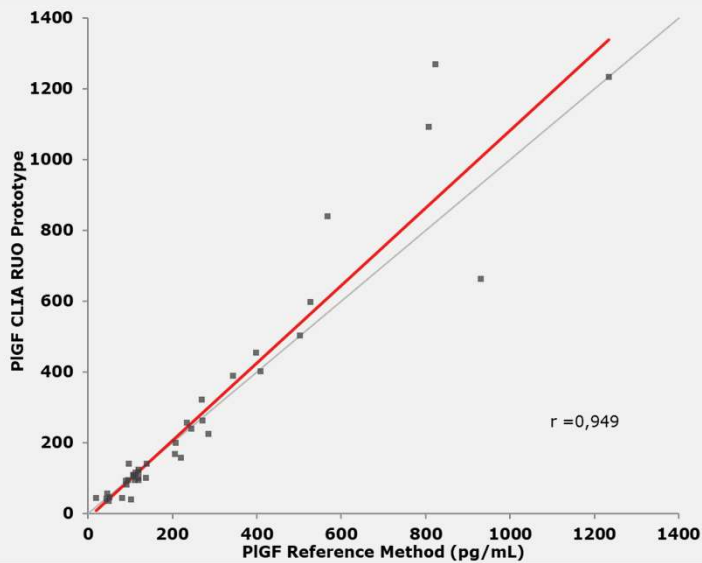


Figure 2 & 3. Method comparison for performance evaluation – Pregnant women with and without risk of preeclampsia. Quantitative correlation of PIGF concentration obtained in PIGF Werfen CLIA RUO prototype of 40 individual serum samples compared to the concentration determined with the reference method.

Werfen's Biomaterial offering

Anti-PIGF mAb (PGF16M) (ref 3000-5329/3000-5330)

Storage: -70°C
Source: Hybridoma cell Line
Storage buffer: MES , NaCl pH 6,0
Purification method: Protein A
Protein concentration: ≥1 mg/mL
Preservative: None

Anti-PIGF mAb (PGF03m)(ref 3000-5331 /3000-5332)

Storage: -70°C
Source: Hybridoma cell Line
Storage buffer: MES , NaCl pH 6,0
Purification method: Protein A
Protein concentration: ≥1 mg/mL
Preservative: None

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Contact immunoassay@werfen.com for further technical information and product availability