

# Soluble Fms-like tyrosine kinase

## Overview

### Summary

Fms-like tyrosine kinase (Flt-1), also known as Vascular Endothelial Growth Factor Receptor 1 (VEGFR-1), is a membrane receptor for different members of the vascular endothelial growth factor family like VEGF-A, VEGF-B and Placental Growth Factor (PlGF). The soluble form of VEGFR-1, also known as sFlt-1, comprises the 656 N-terminal residues of the receptor, followed by a specific 30 amino acid tail at its C-terminus that is produced in endothelial cells.

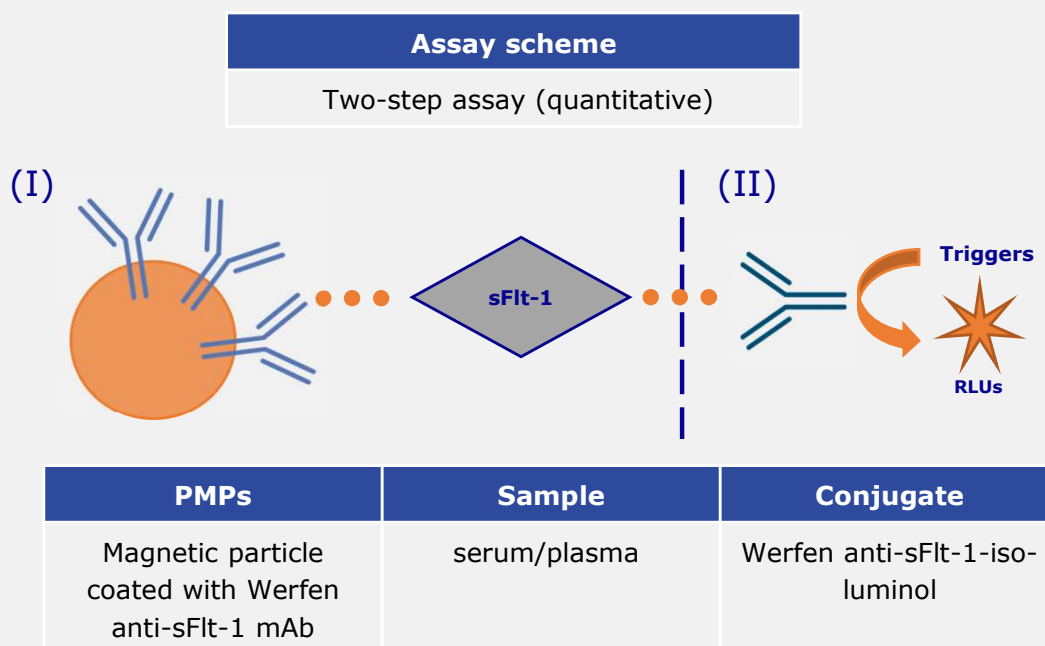
### Epidemiology

In clinical laboratory settings, measuring the circulating levels of sFlt-1 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)<sup>1</sup>. Elevated levels of sFlt-1 have been found in hypoxia or impaired perfusion of the placenta. The increased levels of sFlt-1 have a detrimental effect that could have a relation with the clinical and laboratory observations seen in preeclampsia.

## sFlt-1 CLIA RUO prototype

### Assay Scheme

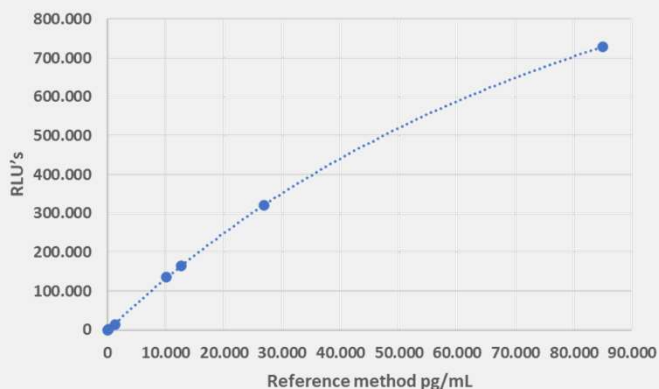
Quantitative detection of soluble FMS-like tyrosine kinase in human serum/plasma



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

# Dose-response in sFlt-1 RUO prototype

sFLT1 RUO CLIA Prototype Dose response



**Figure 1.** Anti-sFlt-1 mAb (1) was used for coating PMPs and Anti-sFlt-1 mAb (2) labeled with Iso-luminal was used as a detector on CLIA assay. A sFLT1 recAg (Werfen Biomaterial) 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).

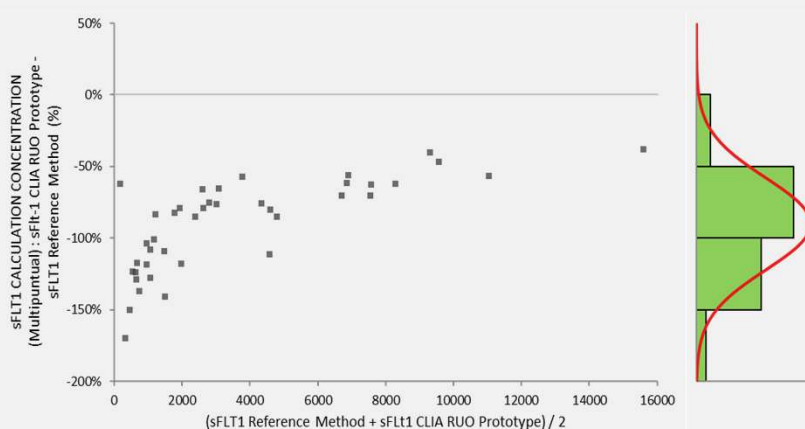
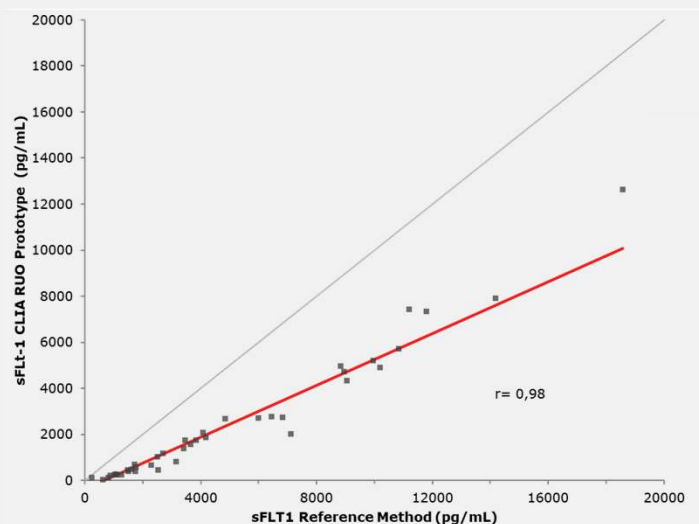
Calibrator Sample	pg/mL*	RLU's
S0	0	310
S1	184	1,407
S2	1,263	13,326
S3	10,180	136,304
S4	12,703	164,051
S5	26,890	321,657
S6	85,000	729,140

\*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 sFlt-1 RUO prototype vs reference assay



**Figure 2 & 3.** Method comparison for performance evaluation – Pregnant women with and without risk of preeclampsia. Quantitative correlation of sFLT1 concentration obtained in sFLT1 Werfen CLIA prototype of 40 individual serum samples compared to the concentration determined with the reference method.

## Werfen's Biomaterial offering

### Anti-sFlt-1 mAb 1 (ref 3000-7060)

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-sFlt-2 mAb 2 (ref 3000-7061)

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

This product is in R&D Stage and is for "Investigation / Research Use Only". The content within this brochure is provided for informational purposes.

Contact [oem@werfen.com](mailto:oem@werfen.com) for further technical information and product availability