

# Insulin Growth Factor Binding Protein 3

## Overview

### Summary

Insulin Growth Factor Binding Protein 3 (IGFBP-3) is a protein found in circulation and inside cells. It is composed of 264 amino acids and has a molecular weight ranging from 28.7 kDa to 53 kDa<sup>1</sup>. IGFBP-3 belongs to the family of insulin growth factor binding proteins, which includes six major types, from IGFBP-1 to IGFBP-6.

The expression of both IGFBP-3 and IGF-1 is stimulated by growth hormone (GH), which encompasses the secretion of IGF-1 to circulation and its binding with IGFBP-3<sup>2</sup>.

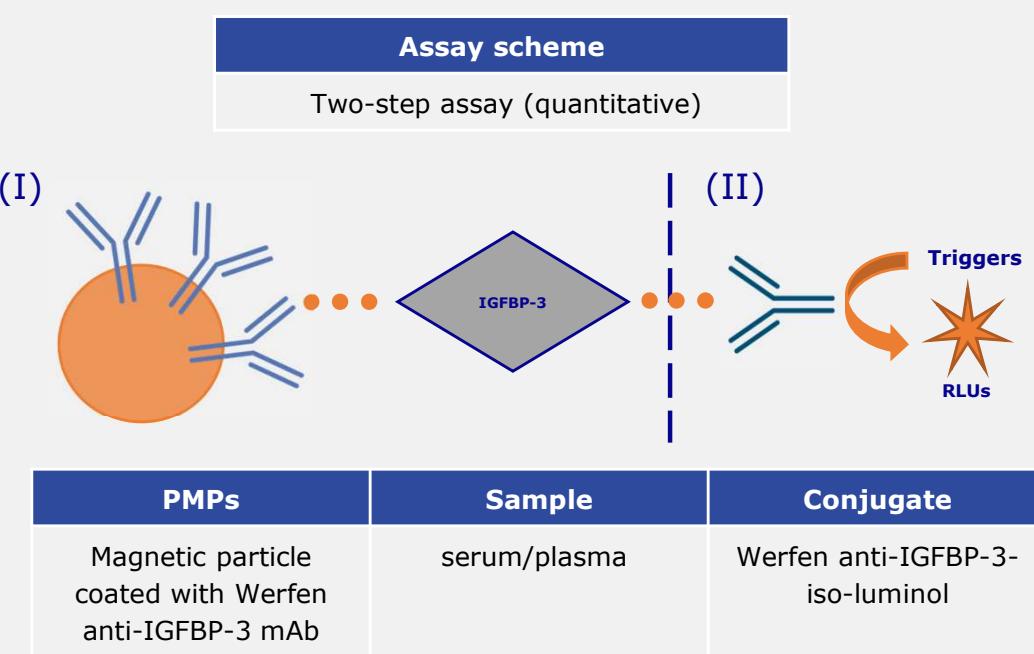
### Epidemiology

In clinical laboratory, serum levels of IGFBP-3 are considered useful aid in the diagnosis and monitoring of growth-hormone related clinical conditions like acromegaly and growth hormone deficiency<sup>3</sup>.

## IGFBP-3 CLIA prototype

### Assay Scheme

Quantitative detection of IGFBP-3 in human serum/plasma

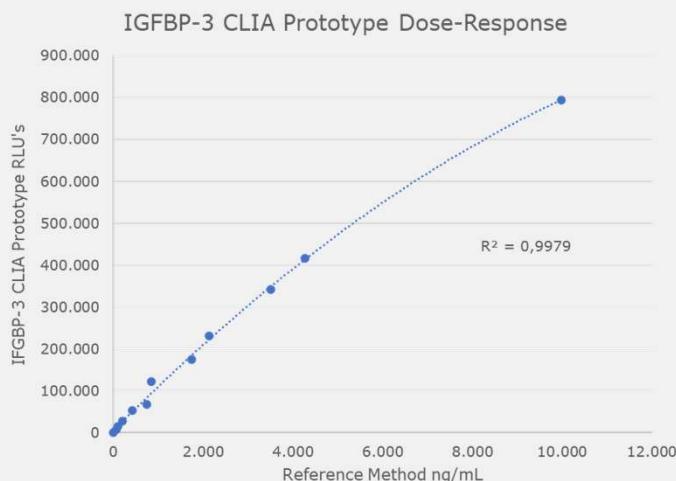


1.- Rajaram et al. Insulin-Like Growth Factor-Binding Proteins in Serum and Other Biological Fluids: Regulation and Functions. *Endocrine Reviews*. 1997

2.- Allard J et al. IGF-Binding Proteins: Why Do They Exist and Why Are There So Many? *Frontiers in Endocrinology*. 2018

3.- Haywood et al The insulin like growth factor and binding protein family: Novel therapeutic targets in obesity & diabetes. *Molecular Metabolism*. 2019

# Dose-response in IGFBP-3 CLIA prototype



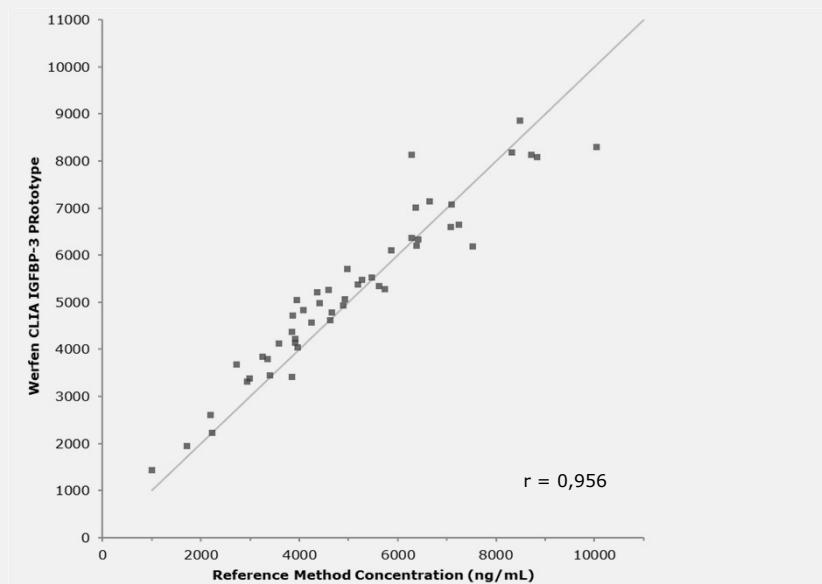
**Figure 1.** Anti-IGFBP-3 mAb (BP324m) was used for coating PMPs and Anti-IGFBP-3 mAb (BP371) labeled with Iso-luminol was used as a detector on CLIA assay. Serum containing IGFBP-3 was diluted at different concentrations and was used as a calibrator sample set. Dose response curve shows reactivity of the different calibrator samples plotted against the concentration obtained with a reference method (measured in ng/mL).

Calibrator Sample	ng/mL*	RLU's
S1	0	1.697
S2	75	8.517
S3	106,4	15.890
S4	211,3	28.333
S5	434,3	54.294
S6	742	67.925
S7	852,5	121.704
S8	1.754	174.889
S9	2.139	231.751
S10	3.514	342.719
S11	4.264	416.259
S12	9.980	794.951

\*Concentration of the calibrator samples obtained with a reference method

**Table 1. Numerical results dose-response calibration curve.**  
Signal-to-noise and assay range performance evaluation.

## Method Comparison of IGFBP-3 CLIA prototype vs reference assay



**Figure 2 .** Method comparison for performance evaluation. Quantitative correlation of IGFBP-3 concentration obtained IGFBP-3 Werfen CLIA prototype of 49 individual serum samples compared to the concentration determined with the reference method.

## Werfen's Biomaterial offering

### Anti-IGFBP-3 mAb (BP371m) (ref 3000-7076)

Storage: -70°C

Source: Hybridoma cell Line

Storage buffer: MES, NaCl pH 6,0

Purification method: Protein A

Protein concentration: 1-3 mg/mL

Preservative: None

### Anti-IGFBP-3 mAb (BP324m) (ref 3000-7077)

Storage: -70°C

Source: Hybridoma cell Line

Storage buffer: MES, NaCl pH 6,0

Purification method: Protein A

Protein concentration: 1-3 mg/mL

Preservative: None

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