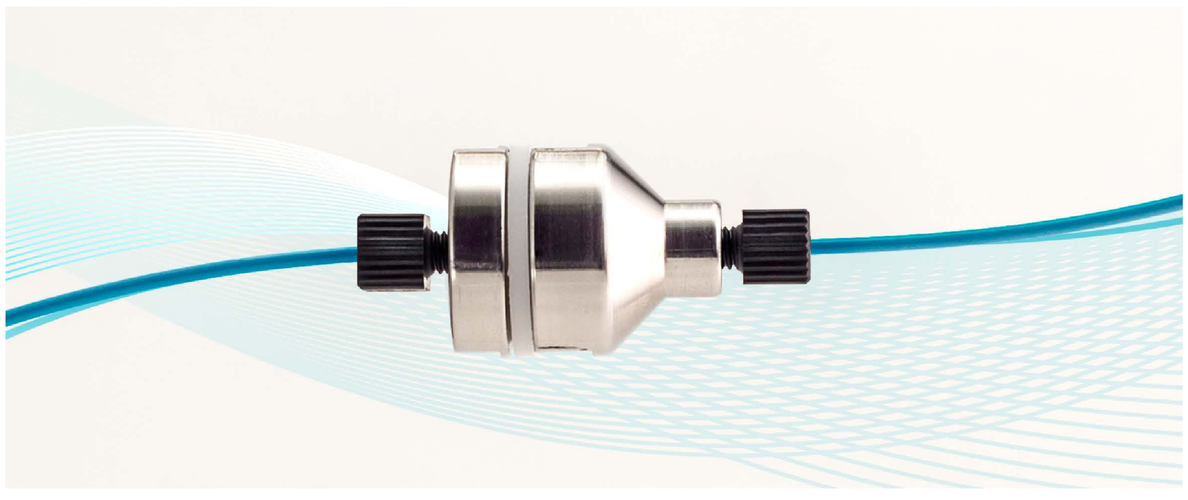
HIGH-SPEED QUANTIFICATION OF IMMUNOGLOBULIN G

CIMac™ r-Protein A Analytical Column

A. Štrancar[1], U. Černigoj[1], S. Peljhan[1] , R. Sekirnik[1]
1 BIA Separations d.o.o., Mirce 21, 5270 Ajdovščina, Slovenia

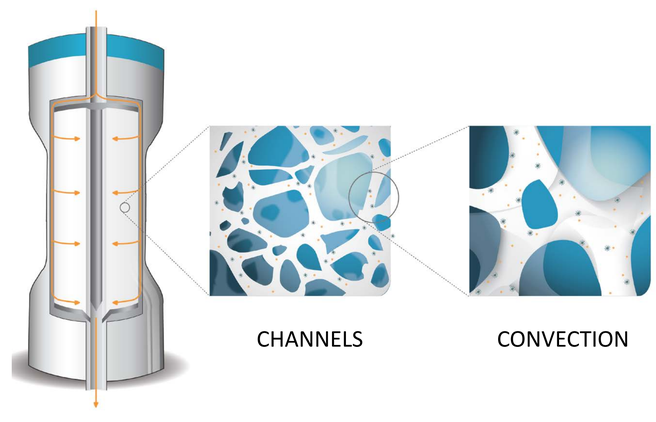
INTRODUCTION

CIMac™ r-Protein A Analytical Column is short bed, high performance monolithic column . Primarly is intended for fast, efficient, and reproducible qualitative and quantitative analyses of Immunoglobulin G (IgG). It is suitable for use with HPLC and UPLC systems. Quantification of Immunoglobulin G is possible between 0.2 µg and 20 µg. Its small volume and short column length allow operation at high volumetric flow rates (up to 3mL/min). The information about product quantity and purity is thus generated in just 1 minute! The column has innovative symmetric design for bi-directional flow, also extending column lifetime.



Monolith chromatography

- Unlimited load volume of lysate
- Binding sites inside the channel
- No dead-end pores or void-volume
- No stagnant zones
- No diffusion limitations
- Performance-independent of flow rate
- Large channels (2 µm) - optimal for binding large molecules, such as viruses, VLPs and DNA
- Flow-independent resolution
- High flow rates (up to 10 CV/min)
- Purification within minutes
- Scale-up straightforward

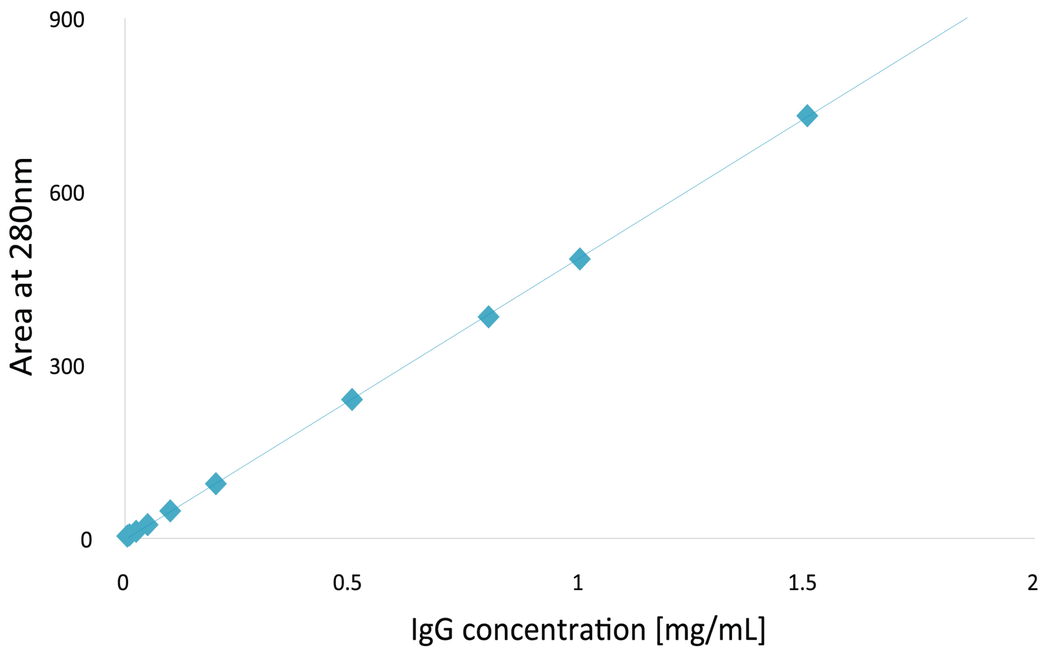


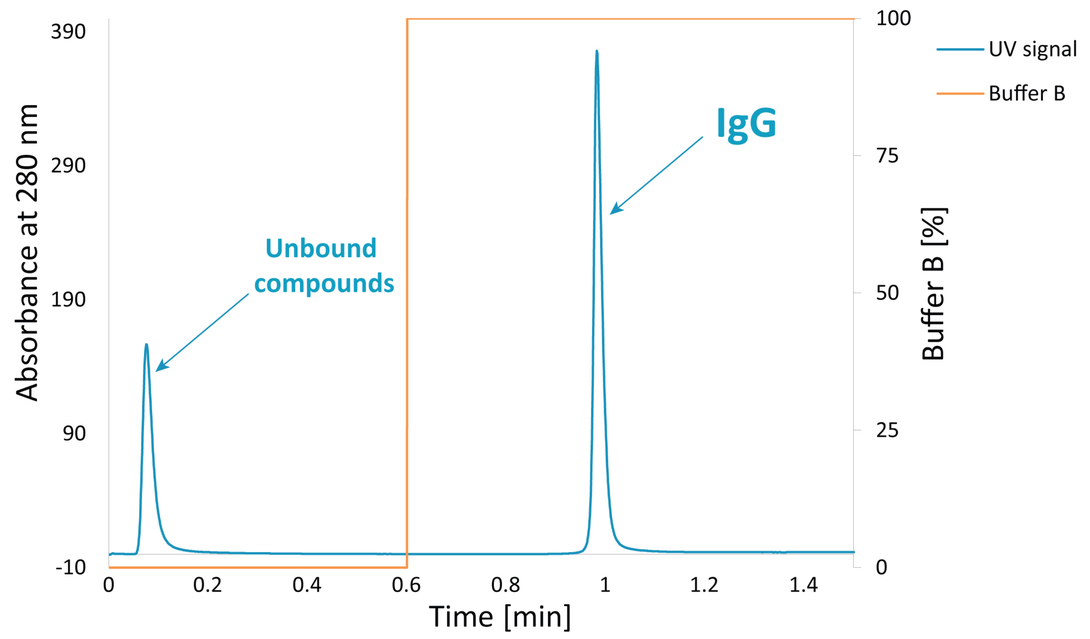
RESULT

Chromatographic conditions:

The **CIMac™ r-Protein A Analytical Columns** were run with an Agilent series 1200 HPLC Systems using UV detection at 280 nm.

- Sample: 10µL of polyclonal human IgG and uracil in phosphate buffered saline, pH 7.2
- Buffer A: phosphate buffered saline, pH 7.2
- Buffer B: 0.1 M glycine, pH 2
- Flow rate: 1.5 mL/min





CONCLUSIONS

- **IgG quantification in 1 minute**
- Suitable for use with **HPLC** and **UPLC** systems
- Suitable for automated data collection and analysis
- Flow rates up to 3mL/min
- Fast conditioning and regeneration
- Innovative symmetric design for **bi-directional flow**
- Prolonged column lifetime
- Reduced backpressure
- Easy sample preparation
- Quantification possible between 0.20 µg and 20 µg IgG