



*Sepax Technologies*

## Sepax Light Scattering SEC-MALS Columns

Certified LS SEC Column with Exceptional Low Shedding & Baseline Noise

Sepax has developed a family of silica-based columns dedicated for SEC-MALS protein/particle applications. These columns provide high resolution, an extended lifetime, excellent lot-to-lot reproducibility, and a full range of pore size selections. Moreover, these columns have exceptionally low light scattering baseline noise and each column is individually QC tested on MALS and delivered with Certificate of Performance.

### **Sepax Light Scattering SEC-MALS Columns**

*Certified LS SEC columns for optimal light scattering measurements.  
Exceptional low shedding and low baseline noise  
Each column individually QC tested on MALS  
3um & 5um / wide pore selections (300A, 500A, 1000A, 2000A) for biologics*

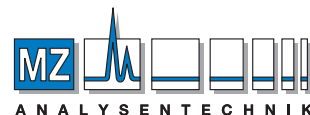
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### **SEC-MALS**

*Multi-angle light scattering (MALS) combined with size exclusion chromatography (SEC), is an essential tool for today's protein characterization and can lead to considerably more information about the molecule.*

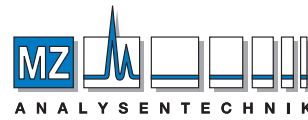
### **Applications of SEC-MALS Columns include:**

*Determination of molecular weight, molecular size and molecular structure analysis  
Determination and quantitation of protein aggregation  
High resolution separation of biomolecules including MAb, vaccine, VLP  
Electrostatic aggregation  
Absolute molecular weight determination  
Protein formulation stability  
Liposome/nanoparticle stability and degradation studies*



MZ-Analysentechnik GmbH  
Barcelona-Allee 17 • D-55129 Mainz  
Tel +49 6131 880 96-0  
Fax +49 6131 880 96-20  
e-mail: [info@mz-at.de](mailto:info@mz-at.de)  
[www.mz-at.de](http://www.mz-at.de)

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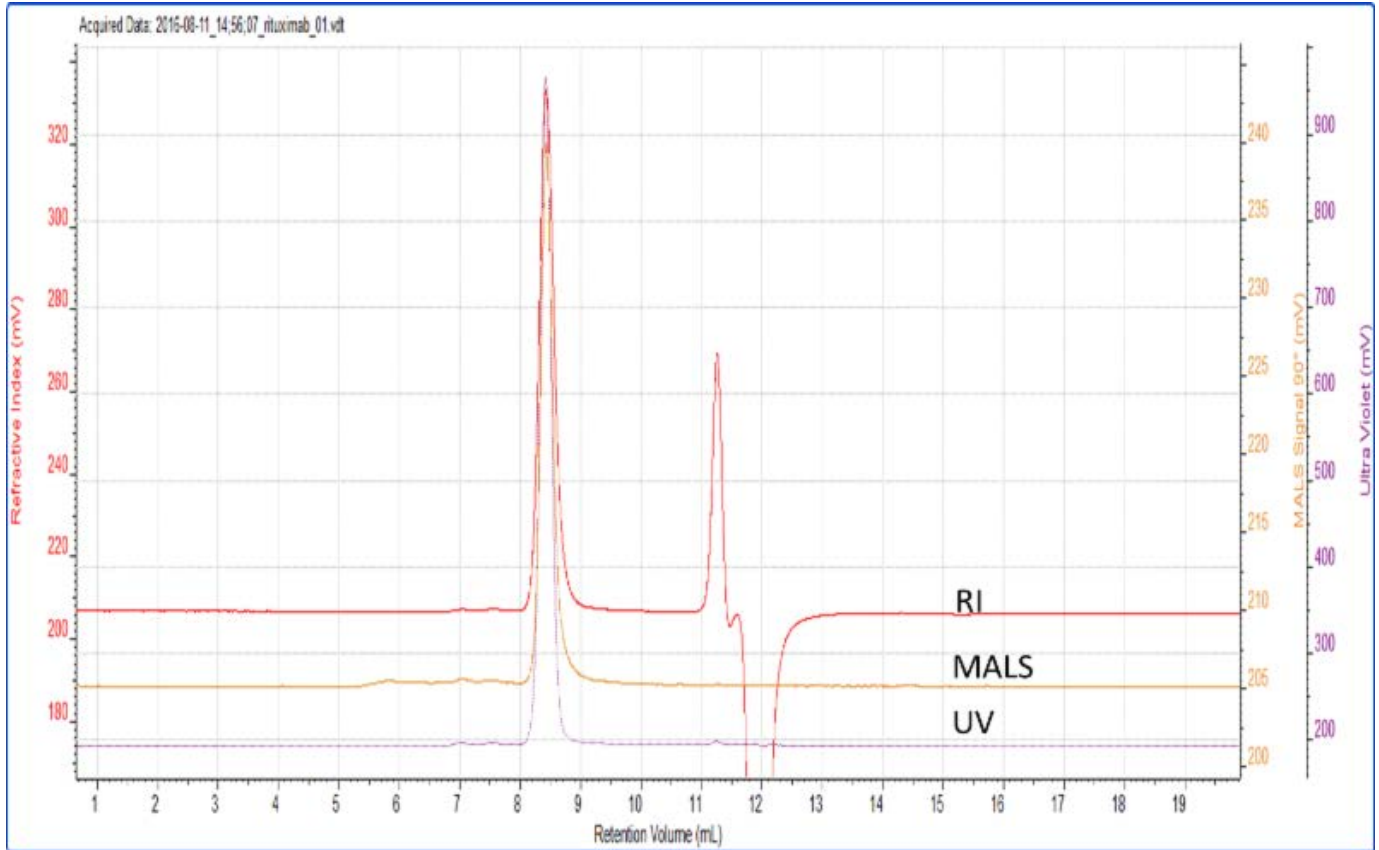


MZ-Analysetechnik GmbH  
 Barcelona-Allee 17 • D-55129 Mainz  
 Tel +49 6131 880 96-0  
 Fax +49 6131 880 96-20  
 e-mail: info@mz-at.de  
 www.mz-at.de

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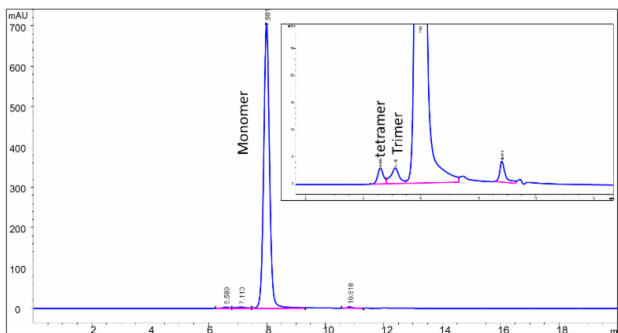
# Sepax Technologies

## Rituximab SEC Analysis on Triple Detectors - MALS vs UV vs RI



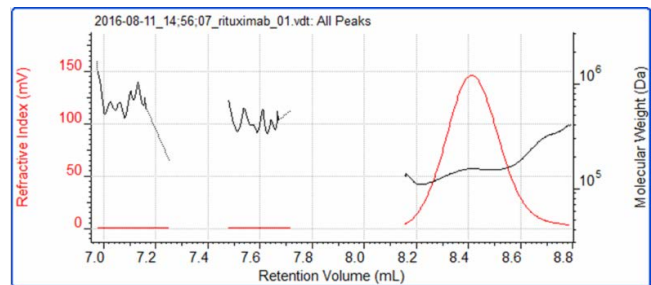
Column: Zenix-C SEC-300 (3 mm, 300 Å), 7.8x 300 mm; Mobile phase: 20 mM sodium phosphate buffer + 700 mM NaCl, pH 7.0; Flow rate: 1 mL/min; Detector: UV 280 nm, RI, MALS; Column temperature: 25 degrees Celcius; Injection volume: 10 mL, 10 mg/mL rituximab

### Zoom-in Rituximab SEC Analysis



Column: Zenix -C SEC-300 (3 m m, 3 00 Å), 7.8x 300 mm;  
 Mobile phase: 20 mM sodium phosphate buffer + 700 mM NaCl, pH 7.0; Flow rate: 1 mL/min; Detector: UV 280 nm;  
 Column temperature: 25 degrees Celcius;  
 Injection volume : 10 m L, 10 mg/mL rituximab

### Rituximab-Light Scattering Results



#### Light Scattering results

Peak	1	2	3
Ret Vol (mL)	7.030	7.534	8.410
Mw (Da)	591,733	429,578	150,414
Mw/Mn	1.134	1.030	1.027
Rg(w) (nm)	24.74	19.08	10.22
Wt Fr (Peak)	0.0028	0.0031	0.9942
MALS Area (90°)	0.11	0.08	8.46