Cas9 mRNA Separation on SEC-MALS

Genome editing is one of the most exciting new areas of therapeutic development, in which Cas9 mRNA genome editing, often referred to as CRISPR-Cas9 technology, is considered one of the most promising developments. In this study, we present SEC HPLC data to analyze the effect of pore size, surface chemistry, type of buffer system, salt concentration and temperature on the aggregate separation of commercially available Cas9 mRNA by using both UV and MALS detections.

Sepax **SRT® SEC 1000 Å and 2000 Å columns** outperform competitor's 1000 Å SEC column under all buffer systems, with significantly higher resolution. Sepax 2000 Å SEC column gives the highest resolution among the three columns being screened, which demonstrates a larger pore size is more suitable for the Cas9 mRNA, with 4522 nucleotides size. Sepax SRT SEC surface chemistry also provides unique selectivity and universal buffer compatibility with 50% lower pressure, which is important for developing a robust, accurate, and reliable analytical method.

Cas9 mRNA

w 5moU modified
Single-stranded, 4522 nucleotides, ~1449 kDa
Concentration: 1 mg/mL

4 Buffer Systems

150 mM PB Buffer
1x PBS buffer
Tris + NH_4Cl Buffer
Tris + NaCl Buffer

2 Temperatures

25 °C vs 50 °C

3 SEC Columns

Sepax SRT SEC-1000

5 µm, 1000 Å, 4.6 x 300 mm
Part Number: 215950-4630

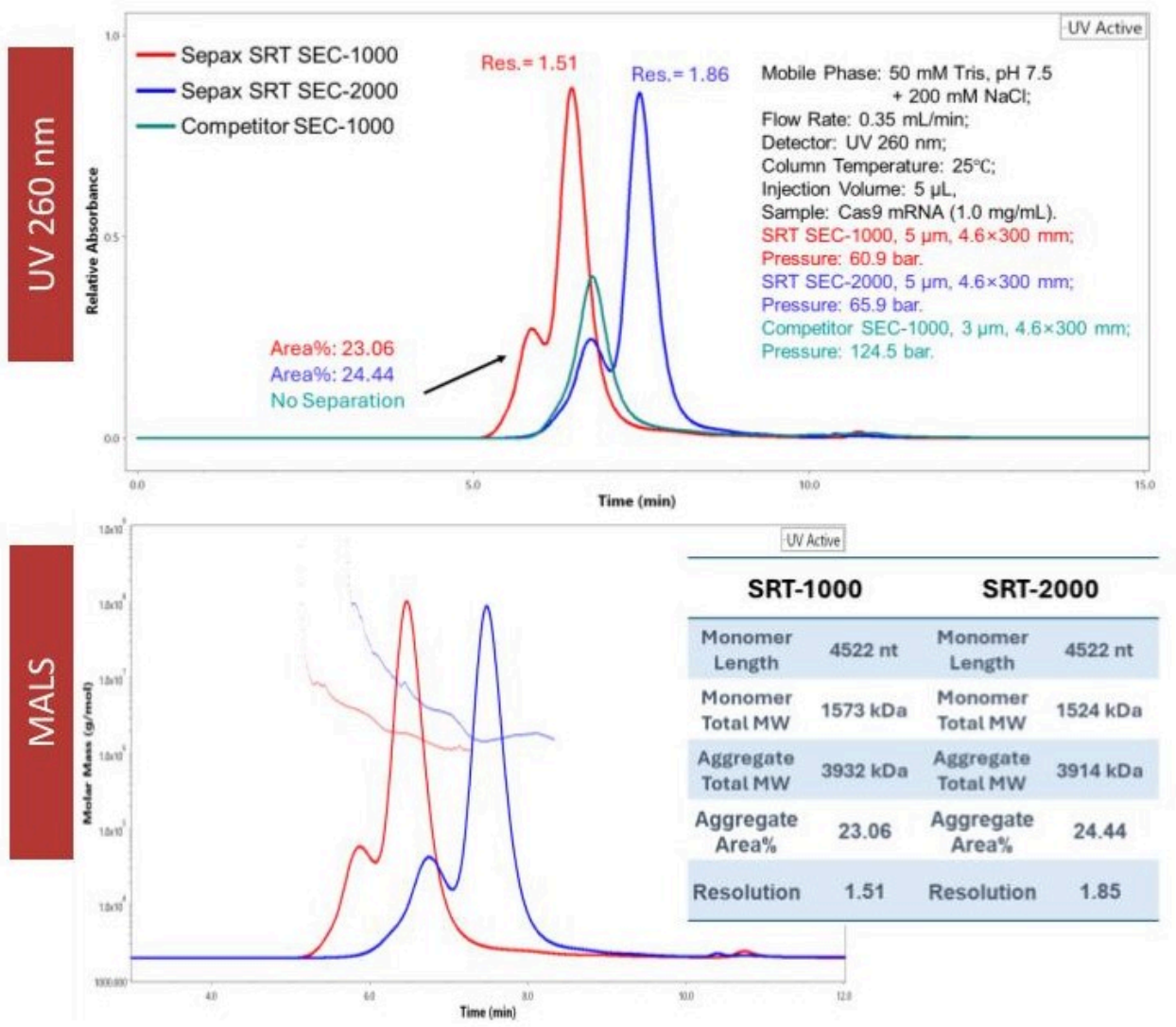
Sepax SRT SEC-2000

5 µm, 2000 Å, 4.6 x 300 mm
Part Number: 215980-4630

Competitor W SEC-1000

3 µm, 1000 Å, 4.6 x 300 mm

Cas9 mRNA (4522nt) SEC UV-MALS - Tris + NaCl Buffer



UV Active

SRT-1000		SRT-2000	
Monomer Length	4522 nt	Monomer Length	4522 nt
Monomer Total MW	1573 kDa	Monomer Total MW	1524 kDa
Aggregate Total MW	3932 kDa	Aggregate Total MW	3914 kDa
Aggregate Area%	23.06	Aggregate Area%	24.44
Resolution	1.51	Resolution	1.85

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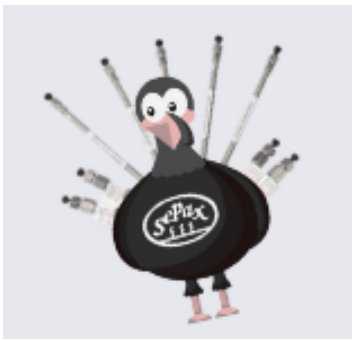

Lastly, we just wanted to carve out time to say thank you! We would like to express our sincere gratitude to all our loyal customers and partners for giving us the chance to add value to your everyday research, applications and workflow. Happy Thanksgiving from all of us at Sepax!

Questions? Contact us today (877) SEPAX-US

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