



Ion Exchange Chromatography is frequently used for antibody analysis. Antibodies and antibody fragments can all be separated on cation exchange columns based on their charge states.

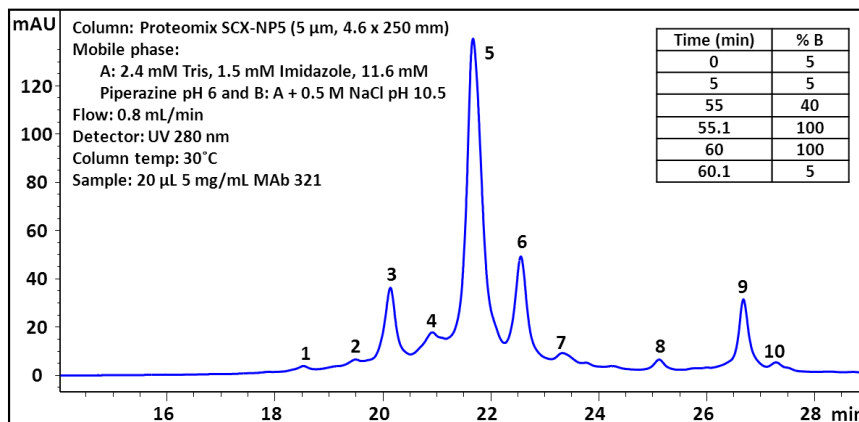
Sepax's Proteomix® SCX is a complementary option to the Antibodix™ WCX phase for the high resolution, high efficiency and high recovery analysis of antibodies and their variants.

### Highlighted FACTS:

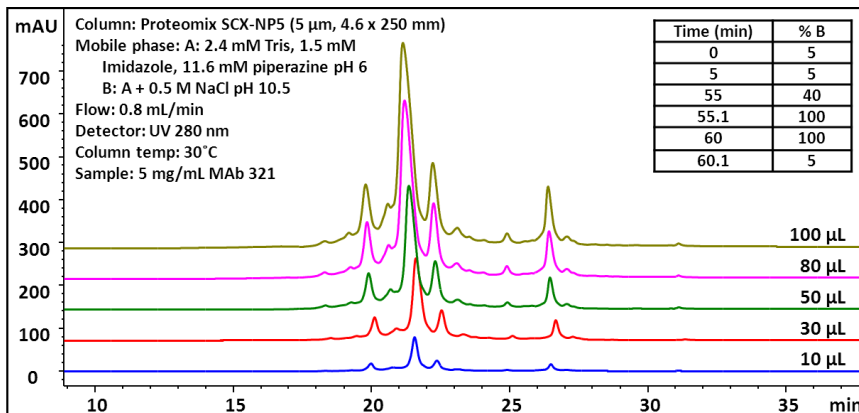
- ▶ Proteomix® SCX NP5 4.6 x 250 mm can successfully separate monoclonal antibody variants under a variety of different mobile phase systems such as pH and salt gradients.
- ▶ Monoclonal antibody purity, heterogeneity and stability can be monitored using Proteomix® SCX NP5.
- ▶ The 5 µm particle size in Proteomix® SCX NP5 offers superior resolution.
- ▶ High stability packing material allows for analyses in wide pH and temperature ranges.

## Analysis of MAb 321 on Proteomix® SCX NP5

### MAb 321 on Proteomix® SCX NP5 using a pH and salt gradient

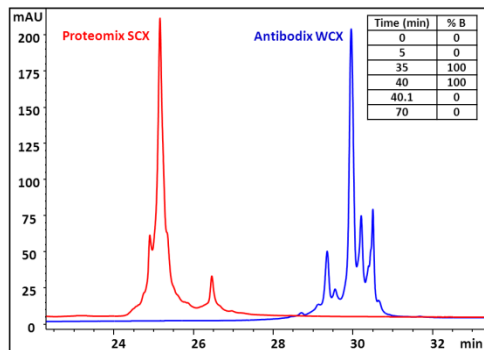


### MAb 321 loading test on Proteomix® SCX NP5 4.6 x 250 mm



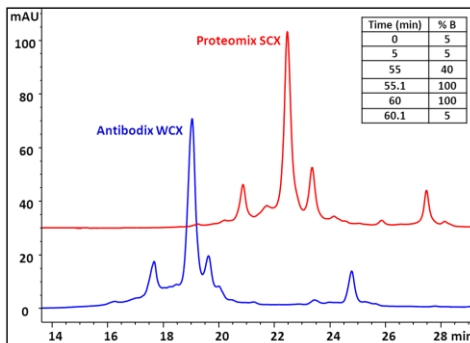
### Proteomix® SCX NP5 compared to Antibodix™ WCX NP5 using a pH gradient for the analysis of MAb 321

Mobile phase: A: 2.4 mM Tris, 1.5 mM Imidazole, 11.6 mM piperazine pH 6 and B: A at pH 10.5; Flow rate: 0.8 mL/min; Column temperature: 30°C; Sample: 10 µL MAb 321 (5 mg/mL)



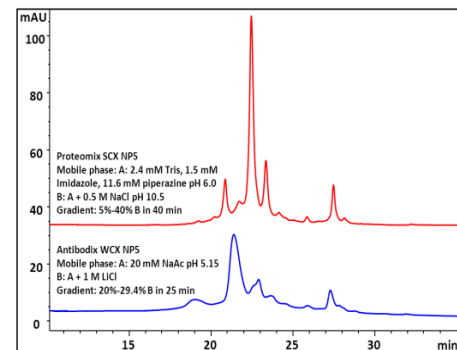
### Proteomix® SCX vs. Antibodix™ WCX using a salt and pH gradient for the analysis of MAb 321

Mobile phase: A: 2.4 mM Tris, 1.5 mM Imidazole, 11.6 mM piperazine pH 6 and B: A + 0.5 M NaCl pH 10.5; Flow rate: 0.8 mL/min; Column temperature: 30°C; Sample: 10 µL MAb 321 (5 mg/mL)



### Analysis of MAb 321 on Proteomix® SCX compared to the analysis on Antibodix™ WCX

Column: Proteomix SCX NP5 and Antibodix WCX NP5, Flow rate: 0.8 mL/min, Detector: UV 280 nm, Column temperature: 30°C, Sample: 10 µL (5.0 mg/mL MAb 321)





## Proteomix® SCX NP5: A Complementary CEX phase to Antibodix™ WCX NP5 for MAb Variant Characterization

### What is Proteomix® SCX NP5

#### Proteomix® SCX NP5 (Strong Cation Exchange):

Comprised of rigid, spherical, highly cross-linked non-porous poly(styrene divinylbenzene) (PS/DVB) beads. The PS/DVB particle surface is grafted with a hydrophilic, neutral polymer layer which is nanometers thick. The resin surface is covered by a hydrophilic coating which eliminates non-specific bindings with antibody proteins, leading to high efficiency and high recovery separations. On top of the hydrophilic layer, strong cation-exchange sulfonate ( $-\text{SO}_3\text{H}$ ) functional groups are attached via a proprietary chemistry, resulting in a high capacity ion-exchange layer.

### Technical Specifications:

Phase	Proteomix® SCX NP5
Material	Sulfonate strong cation exchange groups bonded to a hydrophilic film grafted on PS/DVB
Particle size ( $\mu\text{m}$ )	5
Pore size ( $\text{\AA}$ )	Non-porous
pH stability	2 – 12
Backpressure (psi)	~ 3,500
Maximum backpressure	~ 6,000
Maximum temperature	~ 80 °C
Mobile phase compatibility	Aqueous or a mixture of water and acetonitrile, acetone or methanol

**Sepax Technologies, Inc.**

5 Innovation Way

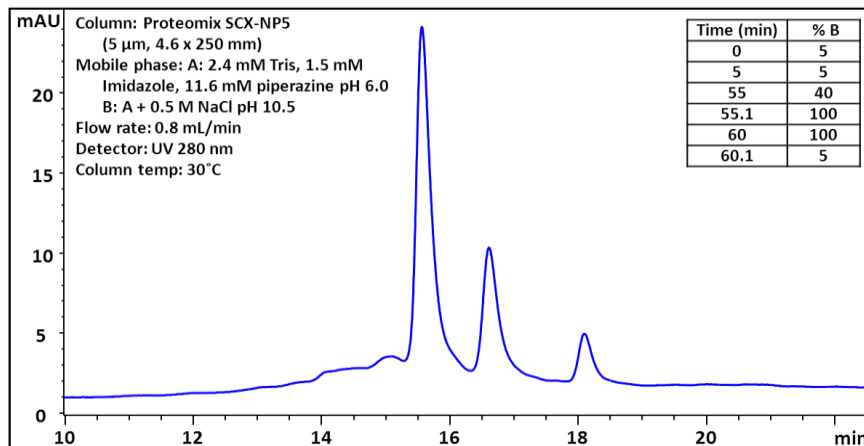
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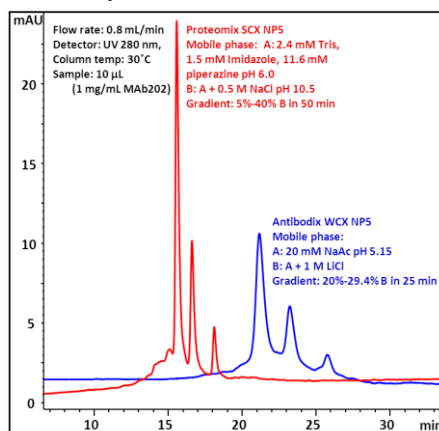
E-mail: info@sepax-tech.com

### Analysis of MAb 202 on Proteomix® SCX NP5

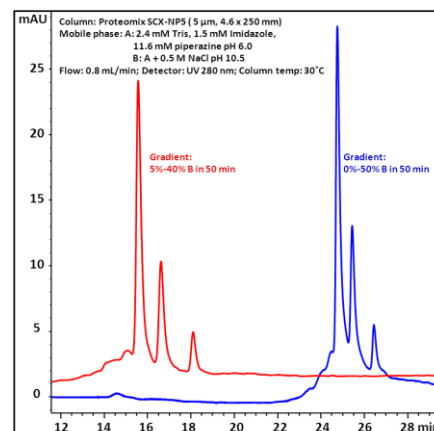
#### MAb 202 on Proteomix® SCX NP5 using a pH and salt gradient



#### Analysis of MAb 202 on Proteomix® SCX NP5 compared to Antibodix™ WCX NP5



#### Gradient modification for improved resolution of MAb 202 on Proteomix® SCX



#### Analysis of MAb 202 on Proteomix® SCX compared to a competitor's WCX column

