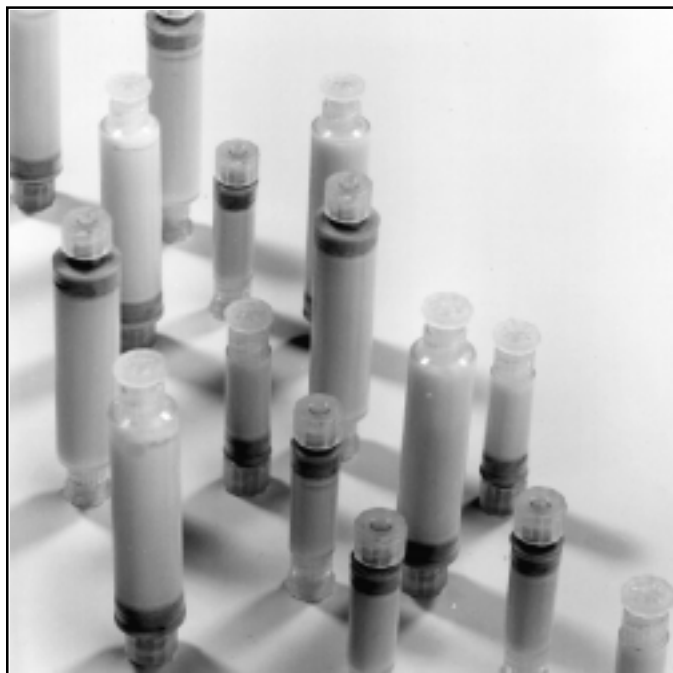


# Rezorian A161 Cartridges

## Product Specification



911-0001

Rezorian™ A161 cartridges are luer lock syringe-tip cartridges that contain a hydrophobic adsorbent. The polypropylene cartridges are solvent-compatible. The hard, insoluble copolymer adsorbent beads are chemically inert and pressure resistant. They exhibit high porosity and large surface area. The mean pore diameter is 120Å and the surface area is 800-900m<sup>2</sup>/g. The particle size is 80-160µm. Rezorian A161 cartridges are available in 1mL and 5mL sizes and can be used singly or connected in series.

Because Rezorian A161 cartridges contain very clean hydrophobic adsorbent, they are ideal for quantitative analyses, protein recovery, and applications that require large surface area. For small molecule adsorption (i.e., antibiotics, surfactants, ethidium bromide, etc.), the cartridges offer very high capacity.

Rezorian A161 cartridges can be used in-line with peristaltic pumps and low-pressure liquid chromatography systems. Also use them for preparing single samples with a syringe or a sample processor.

### Characteristics of Rezorian A161 Cartridges

Bed Volume (mL)	Bed Height (cm)	Void Volume (mL)	Bed Length (cm)	ID (cm)
1	1.8	0.127 ± 0.020	1.9	0.9
5	4.4	1.6 ± 0.2	4.6	1.3

### Typical Applications

- Removal of ethidium bromide<sup>†</sup> (see Table 1)
- Removal of surfactants (see Table 2)
- Recovery of peptides, proteins, antibiotics (see Table 3)
- Adsorption of vancomycin, insulin, small proteins (see Table 4)
- Sample preparation
- PVDF membrane users — remove mixtures of SDS and 1% Triton® X-100
- Adsorption of hydrophobic compounds
- Removal and recovery of phenols, pesticides, chlorinated organics, aromatics

**Note:** Exposing the adsorbent resin to temperatures greater than 60°C will decrease protein capacity.

<sup>†</sup>Cartridges containing ethidium bromide, a mutagen, should be disposed of according to your regulatory compliance and/or waste hauler agreement.

### Custom Cartridges

Supelco will pack the media of your choice in the Rezorian 1mL and 5mL cartridges. Smaller particle sizes provide higher efficiency but lead to higher backpressure. Larger particle sizes generate low backpressure but lead to greater channeling.

Since Rezorian 1mL and 5mL cartridges are solvent-resistant and autoclavable, the limits to your applications are few. Call our technical service chemists to inquire about custom cartridges.

**Table 1. Ethidium Bromide (EtBr) Breakthrough**

Bed Volume (mL)	EtBr Concentration (µg/mL)	Breakthrough Volume <sup>■</sup> (L)
1	0.5 <sup>▲</sup>	>3.5
5	0.5	>16.5
5	0.05	>40

<sup>▲</sup>Typical working concentration of EtBr.

<sup>■</sup>Flow rate = 1 liter/hr; flow rate decreases long before breakthrough is reached;  $A_{285} \geq 0.01$ .

If EDTA is present, the solution pH *must* be  $\leq 4.0$ . Unless it is protonated, the EDTA will complex with the EtBr, reducing the capacity of the cartridge.

#### References

1. K. Pardue, American Biotechnology Laboratory, January 1993, p. 22.
2. Supelco Reporter, Vol. XI, No. 4 (1992).

**Table 2. Removal of Triton X-100 from Buffer Solutions**

Bed Volume (mL)	Triton X-100 Concentration (% w/w)	Breakthrough* (mg Triton X-100)
1	$\leq 0.05$	127 $\pm$ 7
5	$\leq 0.1$	465 $\pm$ 5

Neither the ionic strength of the buffer solutions nor the presence of proteins altered the breakthrough volumes observed.

\* Determined by monitoring absorbance at 275nm ( $A \geq 0.05$ , 0.005% Triton X-100).

#### Reference

1. Supelco Biotext, Vol. 4, No. 3 (1991).

**Table 3. Protein Recovery**

Protein	Recovery <sup>♦</sup> (%)
Cytochrome c (horse heart)	97 $\pm$ 3
Lysozyme	96 $\pm$ 4

Protein recovery from Rezorian A161 cartridges was excellent, without organic modifiers. Removal of 0.1% Triton X-100 was not affected by the presence of the proteins.

<sup>♦</sup>2.5mg/mL protein in 0.1% Triton X-100 used.

**Table 4. Breakthrough of Monomer Insulin in TFA Solutions**

Protein Concentration (mg/mL)	Protein Adsorbed <sup>▼</sup> (mg)
1	18.72 $\pm$ 1.12
0.5	26.23 $\pm$ 4.78

Protein capacity is a function of concentration. Capacity is greater when the sample is applied in small aliquots.

<sup>▼</sup>1mL aliquots used.

### Ordering Information:

#### Rezorian A161 Cartridges (pk. of 6)

Description	Cat. No.
1 mL	57610-U
5 mL	57611

Contact our Technical Service Department (phone 800-359-3041 or 814-359-3041, Fax 800-359-3044 or 814-359-5468) for expert answers to your questions.

#### Trademarks

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Triton — Union Carbide Corp.

For more information, or current prices, contact your nearest Supelco subsidiary listed below. To obtain further contact information, visit our website ([www.sigma-aldrich.com](http://www.sigma-aldrich.com)), see the Supelco catalog, or contact Supelco, Bellefonte, PA 16823-0048 USA.

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