

## PROTEIN PURIFICATION **Bio-Scale™ Mini Cartridges**

- Convenient, prepacked, and disposable design
- Easy connection to liquid chromatography systems using luer lock fittings
- Innovative cartridge design for run-to-run reproducibility
- Wide range of available chromatography media



### Convenient, Reliable, and Ready to Use

#### Chromatography System Compatibility

Bio-Scale Mini cartridges conveniently run a wide variety of chromatography media in the Profinia™ protein purification system, the BioLogic™ LP and BioLogic DuoFlow™ systems, a peristaltic pump, and other chromatography systems. For simple step elution, the cartridges can be used with a luer lock syringe. Fittings are available for connection to HPLC- and FPLC-type chromatography systems.

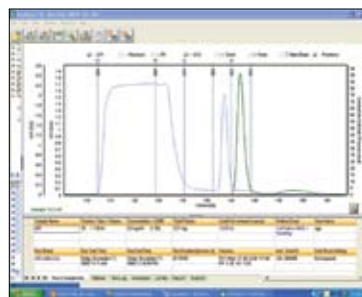
#### Innovative and Robust Design

Bio-Scale Mini cartridges have a double-wall cartridge design that provides extra durability and allows easy, reliable runs at pressures up to 45 psi and with aqueous buffers most commonly used for protein separation. These new cartridges are robust and constructed of chemically compatible polypropylene. The cartridge design and packing process are a unique patented\* Bio-Rad design.

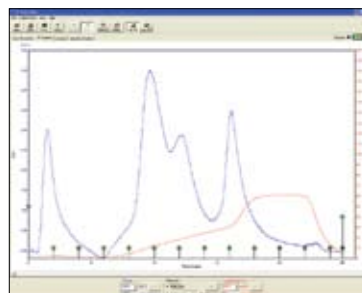
#### Media Variety and Cartridge Size

The cartridges are prepacked with Bio-Rad's chromatography media for ion exchange, affinity, and size exclusion chromatography. The cartridges come in 1 and 5 ml formats that can be used for method scouting or simple purifications. Larger 10 and 50 ml desalting cartridges are also available. Bio-Scale Mini cartridges are convenient, disposable, and ready to use.

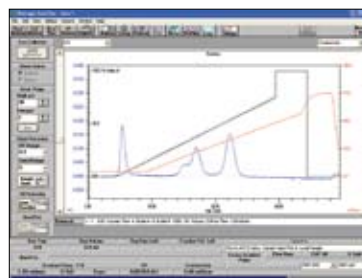
\* U.S. patent 7,208,087 B2.



Chromatogram from the Profinia protein purification system using a Bio-Scale™ Mini Profinity™ IMAC cartridge.



Chromatogram from the BioLogic LP system using a Bio-Scale™ Mini Macro-Prep® High Q cartridge.



Chromatogram from the BioLogic DuoFlow system using a Bio-Scale Mini Macro-Prep High S cartridge.



# Bio-Scale Mini Cartridges

## Prepacked Cartridge Selection

Cartridge by Application	Support	Type of Separation	Chemical Form	Protein Capacity/ml*	Catalog Numbers by Cartridge Size				
					5 x 1 ml	1 x 5 ml	5 x 5 ml		
<b>Protein and Plasmid Purification</b>									
High Q	Macro-Prep High Q	Strong anion exchange	-N <sup>+</sup> (CH <sub>3</sub> ) <sub>3</sub>	≥37 mg BSA	732-4120	732-4122	732-4124		
UNOsphere™ Q	UNOsphere Q	Strong anion exchange	-N <sup>+</sup> (CH <sub>3</sub> ) <sub>3</sub>	180 mg BSA	732-4100	732-4102	732-4104		
UNOsphere S	UNOsphere S	Strong cation exchange	-SO <sub>3</sub> <sup>-</sup>	60 mg human IgG	732-4110	732-4112	732-4114		
DEAE	Macro-Prep DEAE	Weak anion exchange	-HN <sup>+</sup> (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	>35 mg protein	732-4140	732-4142	732-4144		
<b>Protein Purification</b>									
High S	Macro-Prep High S	Strong cation exchange	-SO <sub>3</sub> <sup>-</sup>	≥49 mg human IgG	732-4130	732-4132	732-4134		
<b>IgG Purification</b>									
DEAE Blue	DEAE	Affinity Affi-Gel® Blue	Cibacron Blue	0.2–1.0 ml serum F3GA and DEAE	—	732-4632	732-4634		
<b>Antibody Purification</b>									
Protein A	Affi-Prep® protein A	Affinity	Protein A	8–10 mg mouse monoclonal IgG <sub>1</sub> 16–23 mg human IgG	732-4600	732-4602	—		
CHT™ Type I	CHT ceramic Hydroxyapatite Type I, 40 μm	Hydroxyapatite	(Ca <sub>5</sub> (PO <sub>4</sub> ) <sub>3</sub> OH) <sub>2</sub>	25–60 mg human IgG	—	732-4322	732-4324		
CHT Type II	CHT ceramic Hydroxyapatite Type II, 40 μm	Hydroxyapatite	(Ca <sub>5</sub> (PO <sub>4</sub> ) <sub>3</sub> OH) <sub>2</sub>	15–25 mg human IgG	—	732-4332	732-4334		
<b>Affinity-Tagged Protein Purification</b>									
IMAC	Profinity IMAC	Affinity	Iminodiacetic acid	≥15 mg recombinant histidine (His)-tagged protein	732-4610	732-4612	732-4614		
GST	Profinity GST	Affinity	Glutathione	≥7 mg/ml recombinant GST-tagged protein	732-4620	732-4622	732-4624		
<b>Purification of Serum Proteins, Enzymes</b>									
Blue	Affi-Gel Blue	Affinity	Cibacron Blue F3GA	0.2 ml serum 11 mg albumin	—	732-4642	732-4644		
Cartridge by Application	Support	Type of Separation	Chemical Form	Protein Capacity/ml*	Catalog Numbers by Cartridge Size				
					1 x 5 ml	5 x 5 ml	5 x 10 ml	1 x 50 ml	5 x 50 ml
<b>Desalting, Buffer Exchange</b>									
P-6	Bio-Gel® P-6	Gel filtration	Polyacrylamide	10–22% CV**	732-4502	732-4504	732-5304	732-5312	732-5314

\* Purification capacity based on bulk support; check individual instruction manuals for run conditions and specifications.

\*\* Column volume.

## Specifications

Sizes (bed volumes)	1 ml, 5 ml, 10 ml, and 50 ml
Maximum operating pressure	1, 5, and 10 ml: 45 psi 50 ml: 40 psi
Recommended flow rate	Varies for each support type*
Fittings	Female luer inlet and male luer outlet
Column material	Polypropylene
Frit material	Polyethylene (HDPE)
Dimensions (L x ID)**	1 ml — 40 mm x 5.6 mm 5 ml — 40 mm x 12.6 mm 10 ml — 80 mm x 12.6 mm*** 50 ml — 80 mm x 28.2 mm***

\* Recommended flow rates are given for each support type in the instruction manual.

\*\* L, length; ID, inner diameter.

\*\*\* Available for desalting cartridges only.



For current information on prepacked cartridges, visit [www.bio-rad.com/cartridges/](http://www.bio-rad.com/cartridges/)

Cibacron is a trademark of Ciba-Geigy Corporation.

Purification and preparation of fusion proteins and affinity peptides containing at least two adjacent histidine residues may require a license under U.S. patent 5,284,933 and U.S. patent 5,310,663, including foreign patents (assignee: Hoffmann-La Roche).

Expression and purification of GST fusion proteins may require a license under U.S. patent 5,654,176 (assignee: Chemicon International).



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