

Products for Chromatography -- FACET Reversed Phase Trapping Column

Protea's FACET RP Trapping Columns are produced from sample-friendly PEEK column bodies and packed with high-quality Monitor reversed phase media (5 μm beads) to insure reproducible chromatographic performance in solid phase extraction and LC-MS applications. Our FACET product feature sample-friendly wetted components, including PEEK column bodies and stem heads, to minimize adsorptive sample losses. FACET cartridges have an internal volume of 3 μL and are available in both C_8 and C_{18} formats. The compact cartridge design permits easy connection into any LC plumbing scheme that utilizes standard 10-32 connections.

FEATURES:

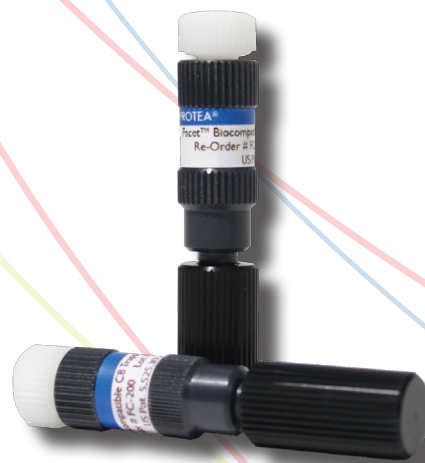
- Sample-friendly PEEK body reduces adsorptive losses
- 10-32 connections permit quick and easy insertion into plumbing schemes
- Available in C_8 and C_{18} options

RESEARCH APPLICATIONS:

- LC-MS analysis of proteins
- LC-MS/MS analysis of tryptic digests of proteins
- Off-line solid phase extraction
- Rapid sample loading as a trapping pre-column

SPECIFICATIONS:

- Column body construction: PEEK
- Frit size/construction: 0.5 μm titanium frits
- Pressure rating: 100 bar (1450 psi)
- Column bore: 400 μm ID
- Internal volume: 3 μL



ORDERING INFORMATION:

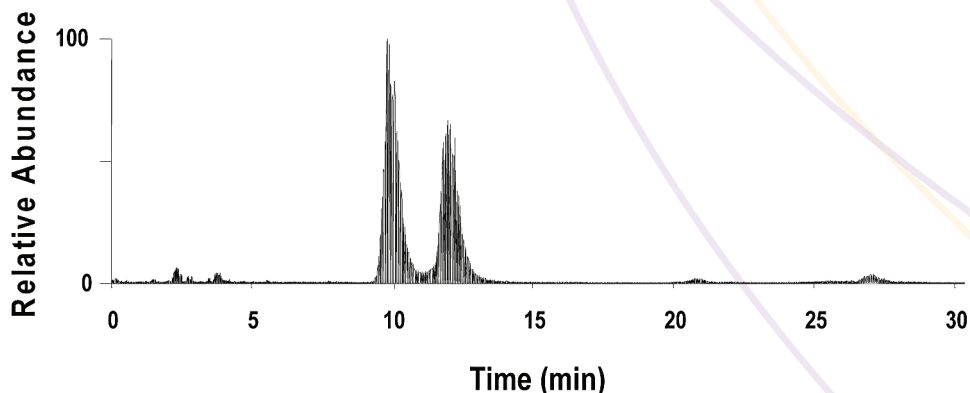
Reversed Phase Trapping Columns

C_8 Reversed Phase Trapping Columns

Catalog Number	Size
FC-200-1	ea
FC-200-5	5 pack

C_{18} Reversed Phase Trapping Columns

Catalog Number	Size
FC-210-1	ea
FC-210-5	5 pack



Base peak chromatogram from the LC-MS separation of 2 pmol angiotensin and somatostatin using a FACET C_8 Trapping Column and a 30 minute gradient with a flow rate of ~500 nL/min.

Products for Chromatography - - Microfilters

Protea's FACET™ Microfilters contain 0.5 µm titanium frits to prevent downstream clogging of fittings, columns, and electrospray tips. The microfilter bodies and fritted stems are made from sample-friendly PEEK, and the standard 10-32 male-female thread connections make the insertion of these microfilters into any plumbing scheme quick and easy. Both nanoflow (50 µm ID) and microflow (180 µm) bore options are available. We recommend using the FACET Microfilters in-line with your chromatography columns to improve their life time and performance.



RESEARCH APPLICATIONS:

FACET Microfilters trap particulates that can cause fouling in many LC and LC-MS applications:

- LC-MS/MS analysis of protein digests
- LC-MS analysis of proteins and peptides
- UV-Vis HPLC analysis of biomolecules

SPECIFICATIONS:

- Column body construction: PEEK
- Frit size/construction: 0.5 µm titanium frits
- Pressure rating: 100 bar (1450 psi)
- Nanoflow bore: 50 µm ID
- Nanoflow internal volume: 20 nL
- Microflow bore: 180 µm ID
- Microflow internal volume: 325 nL

ORDERING INFORMATION:

FACET Microfilters

Nanoflow

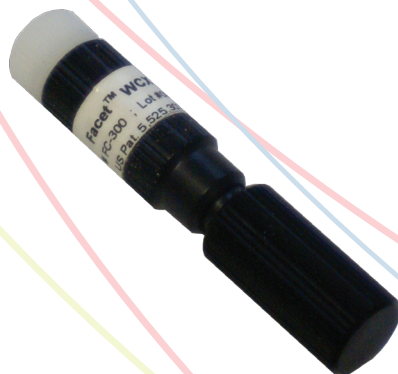
Catalog Number	Size
FC-100-1	ea
FC-100-5	5 pack

Microflow

Catalog Number	Size
FC-110-1	ea
FC-110-5	5 pack

Products for Chromatography -- FACET Cation Exchange (CX) Trapping Columns

FACET Cation Exchange (CX) Trapping Columns are produced from sample-friendly PEEK column bodies and are packed with high-quality cation exchange beads to insure reproducible chromatographic performance in solid phase extraction and LC-MS applications. The biocompatible cartridges are available in weak and strong cation exchange formats. The FACET Weak Cation Exchange Trapping Columns contain 5 µm beads with carboxymethyl ligands, and are operated ideally between pH 5 and 10. The FACET Strong Cation Exchange Trapping Columns contain 5µm beads with sulfonate ligands, and can be operated in a broader pH range of 2 to 10.



FEATURES:

- Sample-friendly PEEK body reduces adsorptive losses
- 10-32 connections permit quick and easy insertion into plumbing schemes
- Available in weak and strong cation exchange options

RESEARCH APPLICATIONS:

- Multi-dimensional LC-MS experiments (e.g. MudPIT)
- Off-line fractionation of peptide and protein samples
- Solid phase extraction protocols

SPECIFICATIONS:

- Column body construction: PEEK
- Frit size/construction: 0.5 µm titanium frits
- Column capacity: 0 – 5 µg
- Column chemistry – WCX: Carboxymethyl
- Column chemistry – SCX: Sulfonate
- Column bore: 400 µm ID
- Volume: 3 µL
- Flow rate: 0.1 – 10.0 µL/min
- Pressure rating: 100 bar (1450 psi)
- Temperature range: 10 – 40°C

ORDERING INFORMATION:

Weak Cation Exchange Trapping Columns

Catalog Number	Size
FC-300-1	ea
FC-300-5	5 pack

Strong Cation Exchange Trapping Columns

Catalog Number	Size
FC-310-1	ea
FC-310-5	5 pack

FACET 2D Trapping Column Kit, Strong Cation Exchange + Reversed Phase C₁₈

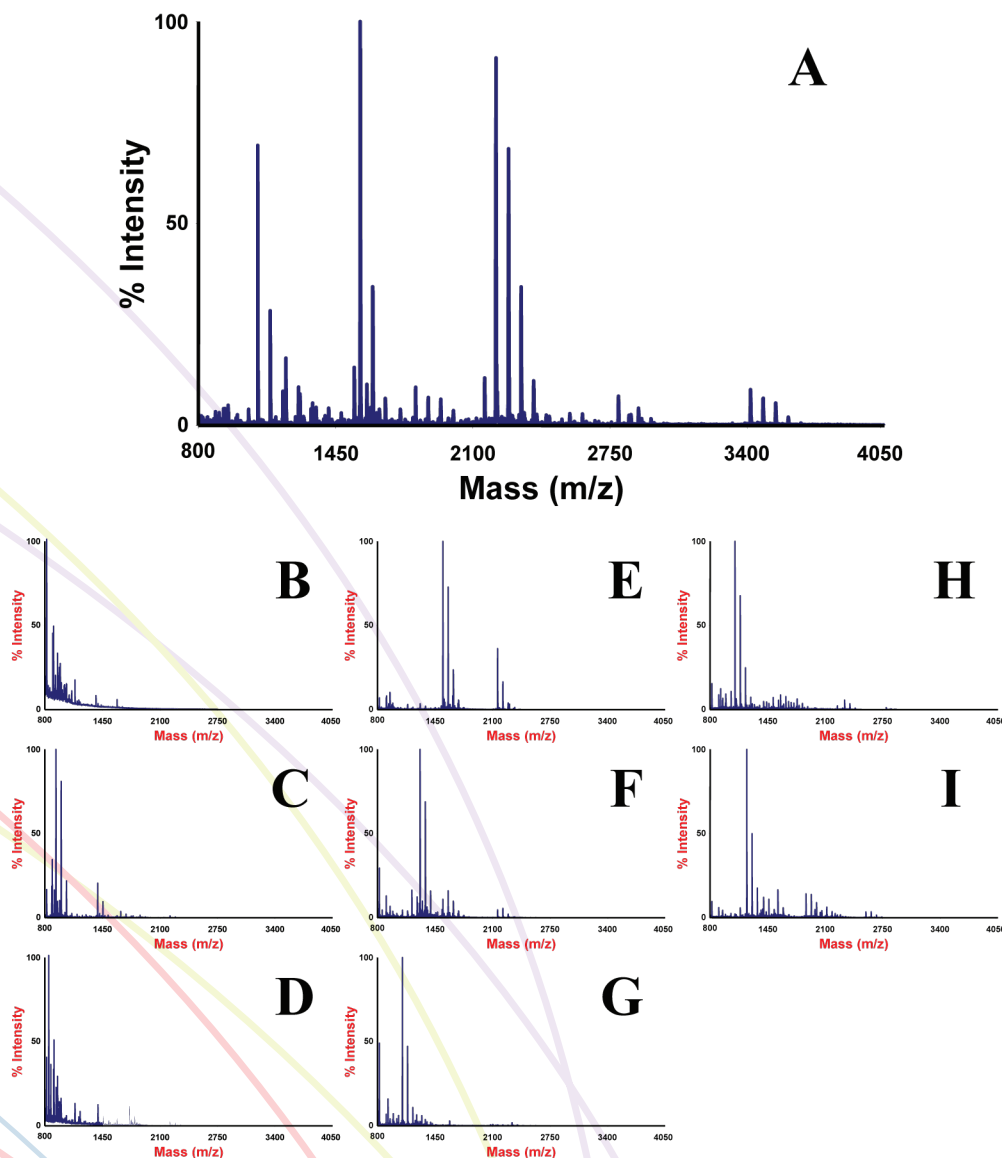
Catalog Number	Size
FC-380	1 Kit

FACET 2D Trapping Column Kit, Weak Cation Exchange + Reversed Phase C₁₈

Catalog Number	Size
FC-382	1 Kit

Off-line sample fractionation using FACET CX Trapping Columns:

A complex 3-protein mixture was tryptically digested and then fractionated off-line using a FACET SCX Trapping Column. Panels B to I show the sample fractionation achieved, compared to direct spotting of the ultracomplex mixture (Panel A). Off-line fractionation reduces the spectral complexity of the mixture and permits more in-depth MS/MS investigation of the complex sample digest.



MALDI-MS spectra from the off-line fractionation of a 0.5 μg digest of a 3-protein mixture (cytochrome C, myoglobin, and carbonic anhydrase) using a FACET Cation Exchange (SCX) Trapping Column.

Key: A = complex 3-protein digest mixture ; B – I = step-wise elution of the peptides from the SCX Trapping Column using 0, 10, 40, 60, 80, 100, 150, and 250 mM ammonium formate in 10% acetonitrile, pH 3.5.

Products for Chromatography - - FACET ZIC®-HILIC Trapping Column

FACET ZIC®-HILIC (ZH) Trapping Columns are produced from sample-friendly PEEK column bodies and are packed with high quality ZIC®-HILIC beads to insure reproducible chromatographic performance in solid phase extraction and LC-MS applications. Conjugated to 5 µm silica-based beads, the zwitterionic ligands of the ZIC®-HILIC chemistry are permanently charged, yet overall neutral, yielding a highly-polar bead surface. This unique ZIC®-HILIC chemistry makes the beads capable of solvating polar and charged compounds in a hydrophilic interaction chromatography format, but with the added potential for weak electrostatic interactions for analytes carrying either positive or negative charges. Thus, the ZIC®-HILIC material is an excellent choice for the separation of polar and hydrophilic peptide mixtures, making it an ideal complement to reversed phase separations.



FEATURES:

- Traps hydrophilic peptides and biomolecules as a complement to traditional reversed phase chemistries
- Sample-friendly PEEK body reduces adsorptive losses
- 10-32 connections permit quick and easy insertion into plumbing schemes

RESEARCH APPLICATIONS:

FACET ZIC®-HILIC Trapping Columns can be used for:

- Protein sequencing and identification in LC-MS experiments
- Post-translational modification characterization
- Off-line fractionation of peptide and protein samples

SPECIFICATIONS:

- Column body construction: PEEK
- Frit size/construction: 0.5 µm titanium frits
- Column capacity: 0 – 5 µg
- Column chemistry: ZIC®-HILIC
- Column bore: 400 µm ID
- Volume: 3 µL
- Flow rate: 0.1 – 10.0 µL/min
- Pressure rating: 100 bar (1450 psi)
- Temperature range: 10 – 40°C

ORDERING INFORMATION:

ZIC®-HILIC Trapping Columns

Catalog Number	Size
FC-250-1	ea
FC-250-5	5 pack

FACET 2D Trapping Column Kit, ZIC®-HILIC + Reversed Phase C₁₈

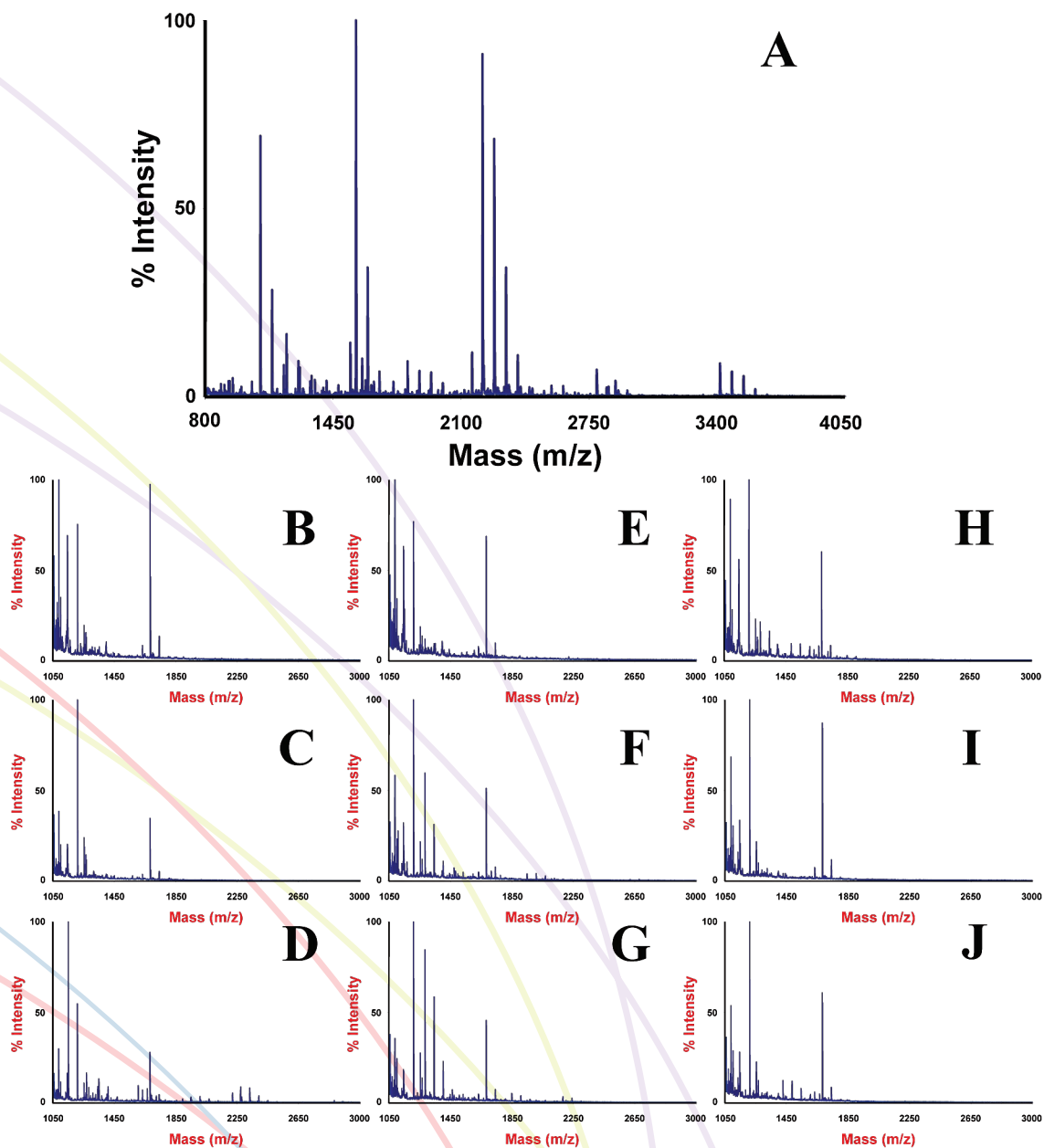
Catalog Number	Size
FC-384	1 Kit

FACET 2D Trapping Column Kit, ZIC®-HILIC + Reversed Phase C₁₈

Catalog Number	Size
FC-385	1 Kit

Off-line sample fractionation using FACET ZH Trapping Columns:

A complex 3-protein/mixture was tryptically digested and then fractionated off-line using a FACET ZH Trapping Column. Panels B to J show the sample fractionation achieved, compared to direct spotting of the ultracomplex mixture (Panel A). Off-line fractionation reduces the spectral complexity of the mixture and permits more in-depth MS/MS investigation of the complex sample digest.



MALDI-MS spectra from the off-line fractionation of a 0.5 μg digest of a 3-protein mixture (cytochrome C, myoglobin, and carbonic anhydrase) using a FACET ZIC[®]-HILIC (ZH) Trapping Column.

Key: A = complex 3-protein digest mixture; B – J = isocratic elution time series of the peptides from the ZH Trapping Column using 50% acetonitrile/50 mM formic acid with 2 minute fraction collections.