



OPTIMIZED PEPTIDE PURIFICATION



Teledyne ISCO offers a complete range of high-performance solutions for the purification of milligram to gram quantities of peptides and microproteins, including our highly versatile flash and prep chromatography systems, precision-packed RediSep columns, and mass spectrometer methods optimized by our innovative PeakTrak software. Purification method development is faster and easier with our exclusive Focused Gradient Generator.



ACCQPrep™ HP 150

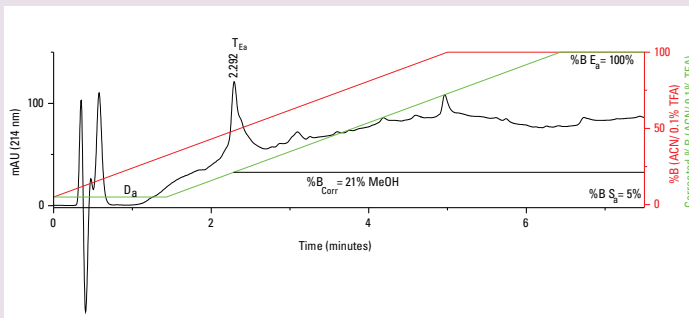
PREPARATIVE HPLC SYSTEM

The ACCQPrep HP150 is geared to peptide purification requirements. A versatile loading pump with increased load capacity allows loading of larger sample volumes directly onto the column for significant gains in purification efficiency.

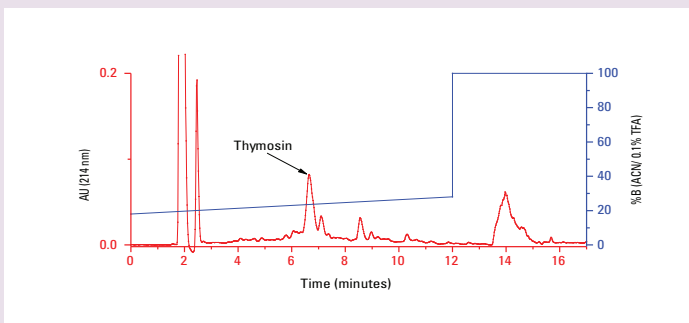
With its intuitive user interface not built on top of an analytical liquid chromatography system, the ACCQPrep lets you easily change parameters on-the-fly in response to changing conditions.

Exclusive Focused Gradient Generator

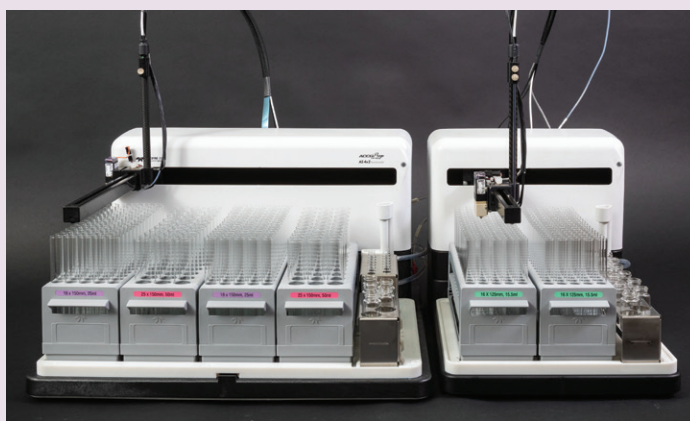
Determine an efficient focused gradient with a single touch from a scouting run, or enter a retention time from an analytical system.



Analytical run of Thymosin (H2N-SDAAVDTSSIEITTKDLKEKKEVVEEAEN-OH, MW 3066) using a RediSep. The solvent system was water/acetonitrile, both containing 0.1% TFA. Thymosin eluted at 2.292 minutes.



Thymosin (12 mg dissolved in 0.2 mL DMSO) run on a Prep C18 column in water/acetonitrile (both containing 0.1% TFA) using the scouting run above.



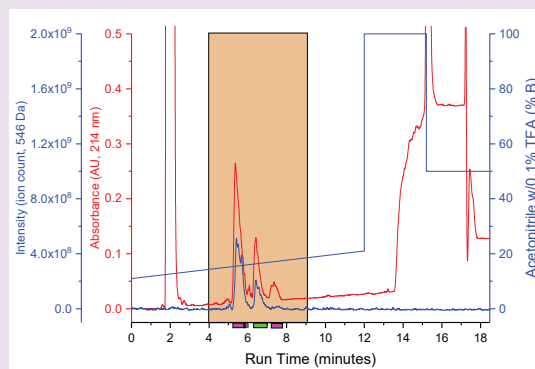
Maximize the throughput and flexibility of your ACCQPrep system by adding automation options for longer unattended operation. Unlimited rack swapping with AutoSamplers. The two rack AS 2x2 and four rack AS 4x2 sampler options allow different chromatographic conditions to be applied to a variety of different samples and doubles or triples the fraction collection capabilities of the base system.



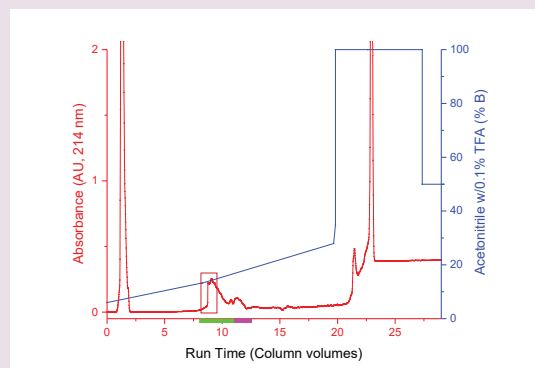
COMBIFlash® NEXTGEN 300+

PURIFICATION PERFORMANCE

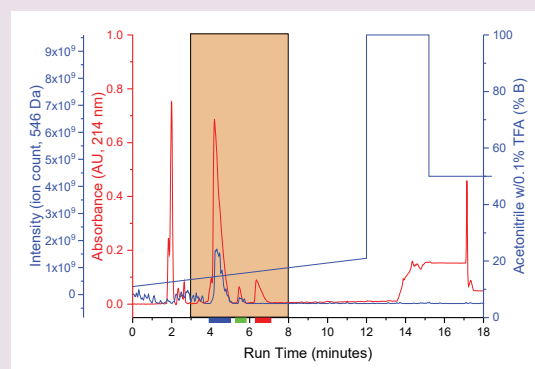
The CombiFlash NextGen by itself optimizes purification of small peptides (up to 1500 Daltons) as fewer impurities are created during the synthesis of these smaller compounds. For pre-purification of larger peptides, the CombiFlash NextGen removes many of the compounds that elute earlier and later than the target peptide. The removal of late-eluting non-polar compounds permits an injection solvent that improves chromatography and with the resulting higher percentage of desired compound, allows greater loading of the compound onto the preparative HPLC system.



The peptide HNWYPAAPH, synthesized by a local peptide synthesis lab, was purified as an ACE inhibitor on a prep HPLC. Non-polar impurities required the sample to be injected with DMSO, limiting each injection to 13 mg.



100 mg peptide dissolved in DMSO and purified on a 50 g Rf Gold C18 column. Gradient similar to Prep HPLC run. Fractions in the box gave 40 mg peptide for Prep HPLC.



Flash fractions evaporated to remove acetonitrile and injected into ACCQPrep

- No DMSO required—higher sample loading
- Flash chromatography nearly pure, only “polishing” needed
- Mass spectrometer detector used, $[M+2H]^2+$ ion for flash and prep HPLC



COMBIFlash[®] TORRENT

THE NEXT GENERATION
IN SCALE UP FLASH
PURIFICATION

- Optimized for reverse phase purifications, such as peptides
- Large scale purification of peptides
- Accepts columns from 100 g to 8.6 kg packing
- Optional sample load and solvent select module allows loading large volumes of dilute peptide



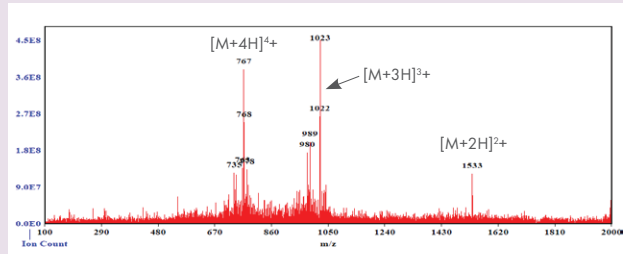
Foxy[®] R2
Daisy-chain up to four Foxy R2 fraction collectors for hundreds of fractions. Choose from a variety of collection containers.



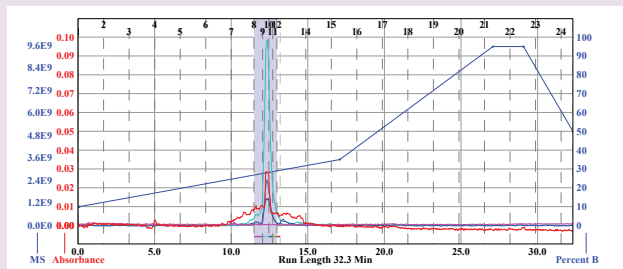
Fractionation Valve



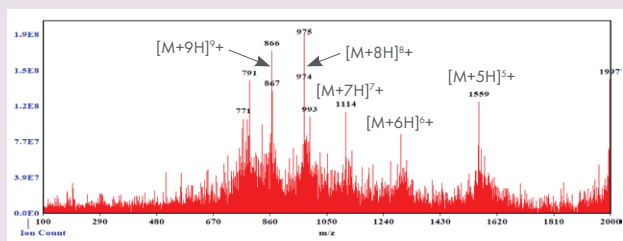
Solvent Switching Valve



Thymosin, 3066 g/mol
SDAAVDTSSSEITKDLKEKKEVVEEAEN



Thymosin purification with mass directed fractionation



AS-48, 7787 g/mol
VVEAGGWVTTIVSILTAVGSGGLSLAAAGRESIKAYL-
KEIKK-KGKRAVIAMAKEFGIPAAVAGTVLNHVKK

PurIon™

MASS SPECTROMETER

- Allows positive identification and purification of the desired peptide peak
- Works with the CombiFlash NextGen and ACCQPrep purification systems
- Detect and purify large peptides via multiply charged ions
- Easy method development to optimize ionization conditions

Large Sample Load Pump

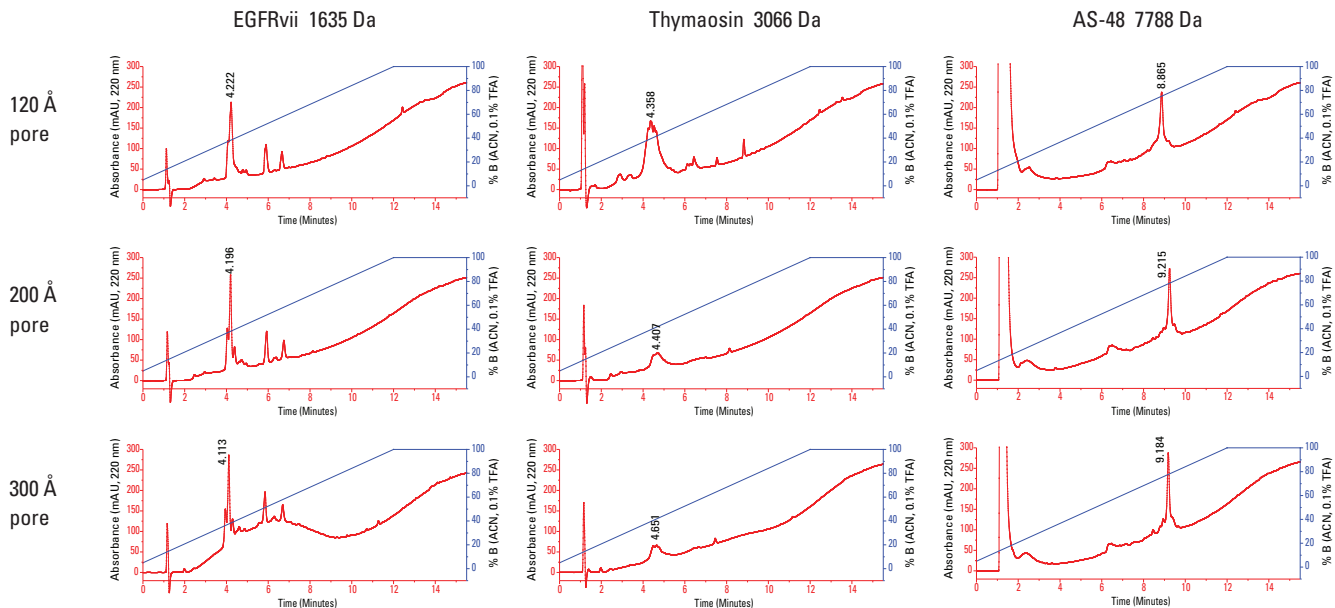
(ACCQPrep only)

Our optional large-volume sample load pump allows injection of volumes greater than 10 mL directly onto the column, bypassing the injection loop. Dilute peptide samples are easily loaded.

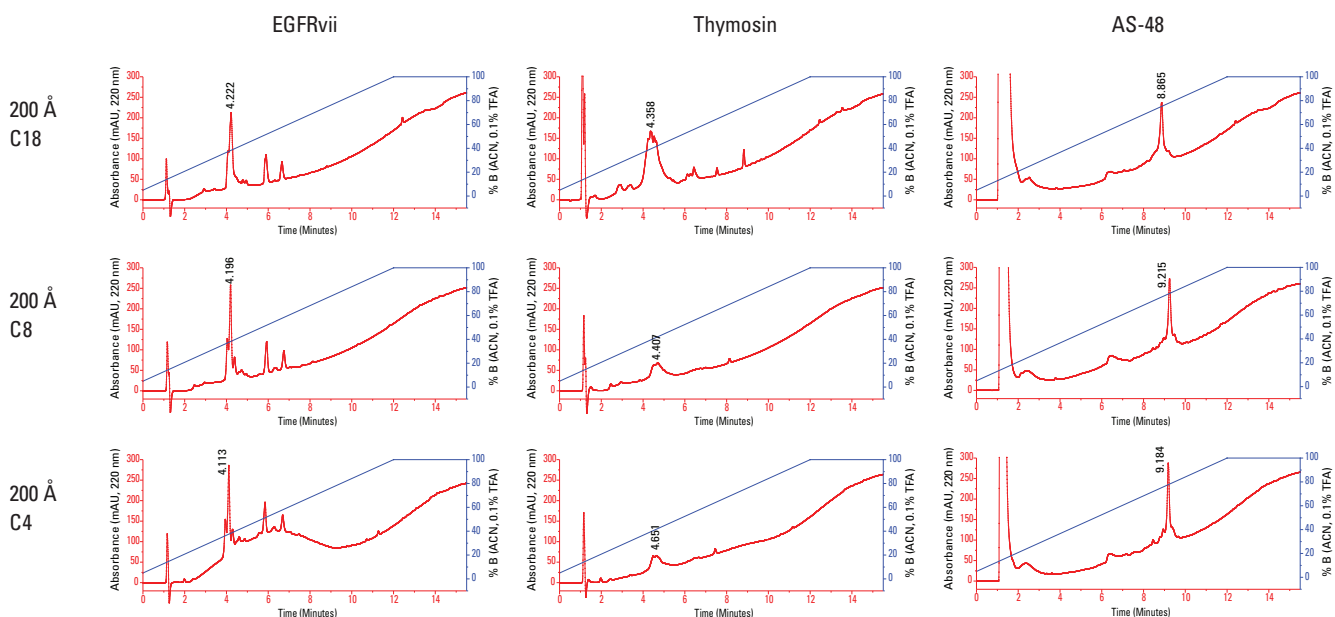


PRECISION PACKED COLUMNS

RediSep columns provide outstanding purification of peptides such as EGFRvii (1635 g/mol), Thymosin (3066 g/mol), and AS-48 (7788 g/mol). Separations were run with the same gradient method on C18 columns of different pore sizes, or C18, C8, and C4 columns with 200 Å pore size. All samples were dissolved in water, except AS-48 dissolved in DMSO.



The smallest peptide (EGFRvii) behaved similarly to the small molecules in that the retention was decreased slightly on C18 with larger pores. Thymosin showed a slight increase in retention as the pore size increased. AS-48, the largest peptide, showed the greatest increase in retention as the pore size was increased to 200 Å, but showed a slight reduction in retention at 300 Å compared to 200 Å. All peptides showed improved retention with decreased carbon chain length with the most change, on average, being a change from C18 to C8.



- For peptides smaller than 2000 Da: Try C18, 100 Å pores
- Peptides 2000 Da and larger: Try the C8 column with 200 Å pores
- Matching analytical and prep columns for easy method development and method transfer between flash and preparative HPLC

REDISEP COLUMNS FOR PEPTIDE PURIFICATION

Refer to previous page for appropriate phase and pore sizes

Flash Columns

RediSep Rf Gold® C18 Reversed Phase columns, 20–40 microns

69-2203-328	5.5 gram Rf Gold C18 columns, pkg. of 2.
69-2203-334	15.5 gram Rf Gold C18 column, pkg. of 1.
69-2203-335	30 gram Rf Gold C18 column, pkg. of 1.
69-2203-336	50 gram Rf Gold C18 column, pkg. of 1.
69-2203-337	100 gram Rf Gold C18 column, pkg. of 1.
69-2203-338	150 gram Rf Gold C18 column, pkg. of 1.
69-2203-339	275 gram Rf Gold C18 column, pkg. of 1.
69-2203-341	415 gram Rf Gold C18 column, pkg. of 1.
69-2203-492	950 gram, Rf Gold C18 column, pkg. of 1.
69-2203-493	1.9 kg Rf Gold C18 column, pkg. of 1.
69-2203-528	3.8 kg Rf Gold C18 column, pkg. of 1.
69-2203-900	8.6 kg Rf Gold C18 column, pkg. of 1.

RediSep Rf Gold® C18Aq Columns, 20–40 micron

69-2203-558	5.5 gram Rf Gold C18Aq columns, pkg. of 2.
69-2203-559	15.5 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-560	30 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-561	50 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-562	100 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-563	150 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-564	275 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-565	415 gram Rf Gold C18Aq column, pkg. of 1.
69-2203-567	1.9 kg Rf Gold C18Aq column, pkg. of 1.
69-2203-568	3.8 kg Rf Gold C18Aq column, pkg. of 1.

RediSep Rf Gold® C8 Columns, 200A, 20–40 micron

69-2203-710	15.5 gram Rf Gold C8, 200A column, pkg. of 1.
69-2203-711	30 gram Rf Gold C8, 200A column, pkg. of 1.
69-2203-712	50 gram Rf Gold C8, 200A column, pkg. of 1.
69-2203-713	100 gram Rf Gold C8, 200A column, pkg. of 1.
69-2203-714	150 gram Rf Gold C8, 200A column, pkg. of 1.

HPLC Columns

RediSep Analytical Columns for Method Development

RediSep Prep UHPLC Columns, 2 x 50 mm

69-2203-853	Prep UPLC Column 2 x 50mm C8, 200A, 2.8μ
69-2203-854	Prep UPLC Column 2 x 50mm C18, 100A, 2.8μ
69-2203-855	Prep UPLC Column 2 x 50mm C18Aq, 100A, 2.8μ

Columns, 4.6 x 150 mm

69-2203-800	Prep 4.6 x 150mm C18 100A, 5μ
69-2203-801	Prep 4.6 x 150mm C18Aq, 100A, 5μ
69-2203-856	Prep 4.6 x 150mm C8 200A, 5μ

RediSep Prep Columns

RediSep Prep Columns, C18

69-2203-808	Prep 10 x 150mm C18 100A, 5u
69-2203-809	Prep 10 x 250mm C18 100A, 5u
69-2203-810	Prep 20 x 150mm C18 100A, 5u
69-2203-811	Prep 20 x 250mm C18 100A, 5u
69-2203-812	Prep 30 x 150mm C18 100A, 5u
69-2203-813	Prep 30 x 250mm C18 100A, 5u
69-2203-814	Prep 50 x 150mm C18 100A, 5u
69-2203-815	Prep 50 x 250mm C18 100A, 5u

RediSep Prep Columns, C18Aq

69-2203-816	Prep 10 x 150mm C18Aq, 100A, 5u
69-2203-818	Prep 20 x 150mm C18Aq, 100A, 5u
69-2203-820	Prep 30 x 150mm C18Aq, 100A, 5u
69-2203-822	Prep 50 x 150mm C18Aq, 100A, 5u
69-2203-823	Prep 50 x 250mm C18Aq, 100A, 5u

RediSep Prep Columns, C8, 200Å

69-2203-857	Prep 10 x 150mm C8, 200A, 5μ
69-2203-858	Prep 20 x 150mm C8, 200A, 5μ
69-2203-859	Prep 20 x 250mm C8, 200A, 5μ
69-2203-860	Prep 30 x 150mm C8, 200A, 5μ
69-2203-861	Prep 30 x 250mm C8, 200A, 5μ
69-2203-862	Prep 50 x 150mm C8, 200A, 5μ
69-2203-863	Prep 50 x 250mm C8, 200A, 5μ

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L-5233 Rev 2.0
12/20