

Perfinity Workstation

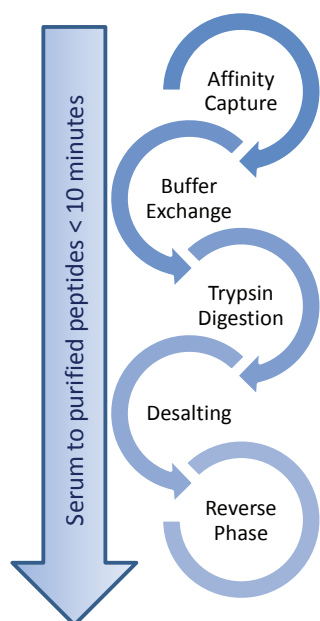
The Next Era of Sample Preparation

Due to the time and cost associated with developing an enzyme linked immunoassay (ELISA), mass spectrometry is playing an increasing role in protein analysis. Furthermore, MS methods enable detection of isoform variations and post-translational modifications, features that are key to an understanding of protein function and activity. However, current protein sample preparation approaches are manual and complex, and often yield irreproducible results. The Perfinity Workstation addresses these limitations by providing a seamlessly integrated solution for **affinity enrichment and protein digestion**. Adding speed, quality and value to your mass spec sample prep.



Automated Mass Spec Sample Preparation

The Perfinity Workstation is a fully-integrated online mass spec sample preparation workstation, combining the selectivity of immunoassay approaches with the resolution of high performance liquid chromatography. It utilizes multiple proteomic approaches to rapidly and reproducibly perform affinity selection, buffer exchange, trypsin digestion, desalting of the sample and reverse phase LC analysis.



Benefits of the Perfinity Workstation

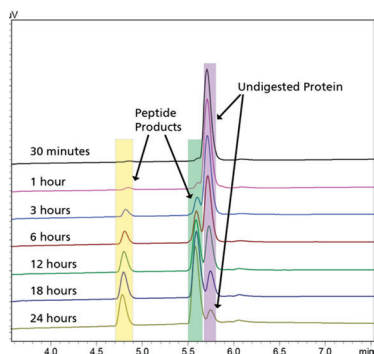
- Three-day workflow complete in under 1 hour
- Cuts sample prep time down to as little as 10 minutes
- High-quality, reproducible proteolysis data (CVs < 10%)
- Reduces operating costs by as much as 50%
- Flexible workflows
- Standardized process across laboratories

The Perfinity Workstation utilizes affinity purification techniques to concentrate compounds of interest and remove interferences. Affinity purifications can be performed in as little as 60 seconds.

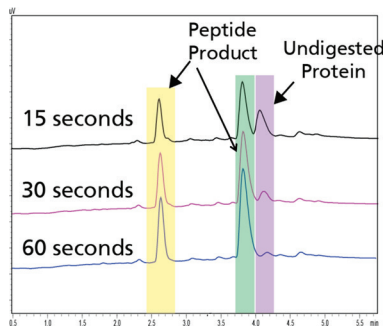
Pairing the selectivity of antibodies with the resolving power of LC/MS results in an uncompromising analytical strategy.

One Minute Reproducible Trypsin Digestion

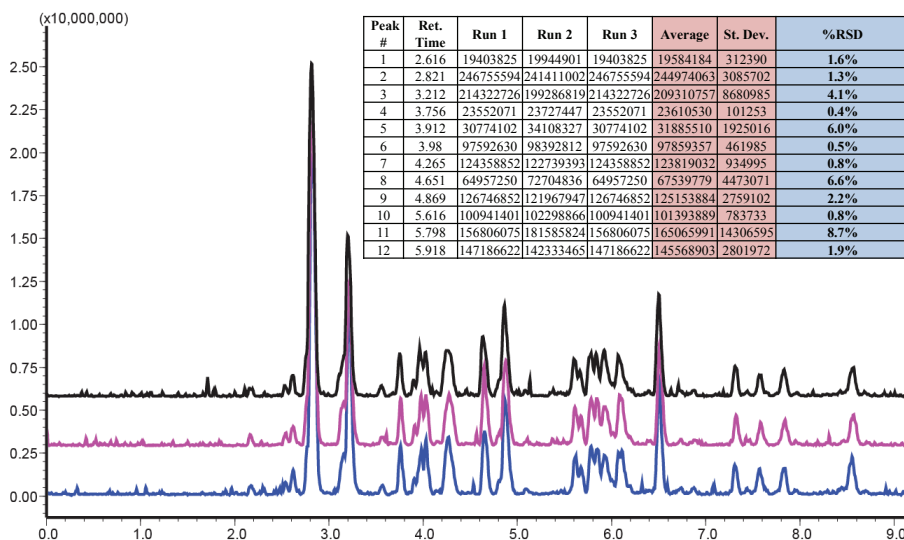
Perfinity immobilized enzyme reactor (IMER) and optimized digestion buffer provide peptide products instantly with CVs < 10%.



THE PAST – Digestion of Insulin Under Standard Conditions (50:1) Protein:Trypsin Ratio, 37°C, 24 hours



THE FUTURE – The Same Digest in 4 Minutes!!! with the Perfinity Workstation



Exceptional Reproducibility – Through automation the Perfinity Workstation is able to achieve reproducible tryptic digestions. Digestion of hemoglobin resulted in a maximum %CV of 8.7%. The optimized buffers and column technology creates a standardized protocol ensuring reproducibility time and time again.

Perfinity automates sample preparation to deliver quality, speed and value with each of its products. In order to eliminate the digestion bottleneck Perfinity chose to use immobilized trypsin because it removes the fundamental limitation of trypsin autolysis and allows for the use of a 10,000-fold excess of enzyme, accelerating reaction rates by several orders of magnitude.

Applications

Protein Drug Development

Monitor the protein therapeutic during production.

- Peptide mapping in 30 minutes or less (same day results)
- Save money by stopping bad batches
- Obtain reproducible and reliable results

Protein QC

- QC protein products with confidence (CV's < 10%)
- Use Perfinity optimized buffers and columns for standardized protocol

Disulfide Mapping

- Use No Reduction / Alkylation (NoRA) columns to preserve linkages
- Couple to LC-MS/MS to identify di-sulfide bonds
- Elucidate 3D structural information

Targeted Proteomic Assays

- Create, transfer and optimize targeted SRM assays quickly
- Obtain reproducible and quantitative results in minutes
- Probe protein isoforms with affinity capture

"Pairing the Perfinity sample preparation approach with mass spectrometry based detection results in an uncompromising analytical strategy that is easily customizable, dramatically reduces analysis times, diminishes supply costs and shrinks the labor requirements currently associated with mass spectral analysis of proteins."

Professor Fred Regnier, J. H. Law Distinguished Professor—Analytical Chemistry, Purdue University



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Request more info and watch a video at:
www.PerfinityWorkstation.com

