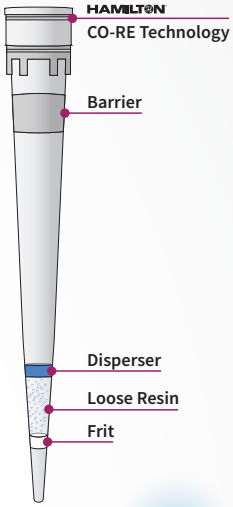
Exploring the benefits of IMCSTips®

AUTOMATED PHOSPHOPEPTIDE ENRICHMENT

PRODUCT OVERVIEW

IMCStips use a patented dispersive resin technology to enrich phosphorylated proteins and peptides. Tyrosine is a crucial target for phosphorylation in mediating cellular signaling events linked to carcinogenesis. The lower abundant phosphotyrosine (pTyr) is difficult to achieve using zirconium dioxide (ZrO_2) or titanium (PolyTi™) chemistries, as these chemistries enrich more abundant phosphorylated serines (pSer) and threonines (pThr). An improved enrichment of pTyr peptides is achieved with immunoaffinity enrichment workflow that couples anti-pTyr antibodies to either Protein A or Streptavidin beads in IMCStips.

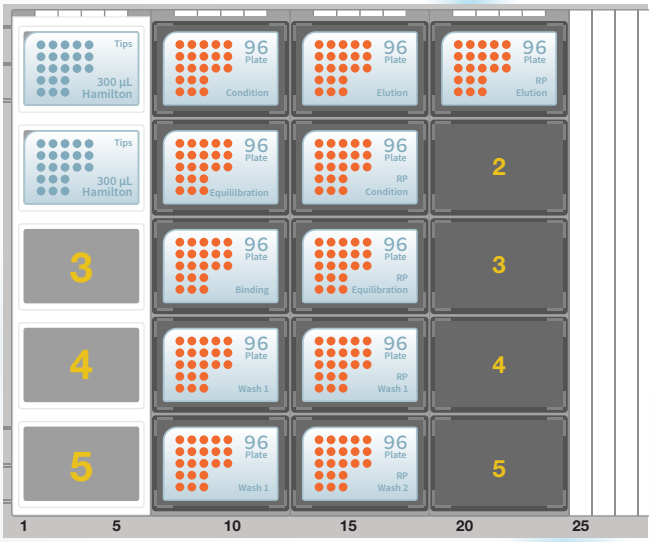


- **HIGH SPECIFICITY**—over 90% specificity for pTyr within enriched phosphopeptides
- **AUTOMATED**—hands-off sample processing
- **EASY TO USE**—ready-to-run workflow and robotic script available
- **FLEXIBLE**—available in multiple tips sizes with multiple resin amounts

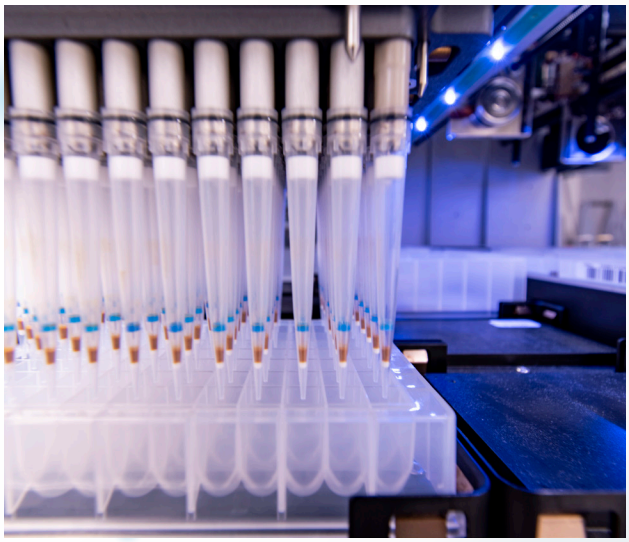
FULLY AUTOMATED METHODS AND CUSTOM SCRIPTS AVAILABLE

IMCS offers fully automated sample preparation methods for pTyr enrichment IMCStips. Methods have been optimized and are ready for use in your process.

- **96 samples in 30 minutes**
- We will send a software script package file for Hamilton systems with your tips
- Our R&D team can help develop a customized workflow
- We offer onsite confidential method development



Deck layout on Hamilton Microlab STAR liquid handling system for automated method for desalting and phosphopeptide enrichment.



Example of IMCStips on Hamilton 96 CO-RE head.

IMPLEMENTATION IS EASY WITH IMCStips®

- Software scripts for Hamilton Workstations
- Fully developed narratives guide you through each step
- Templated processes allow for customized workflows
- On-site technical support

JUST CLICK GO

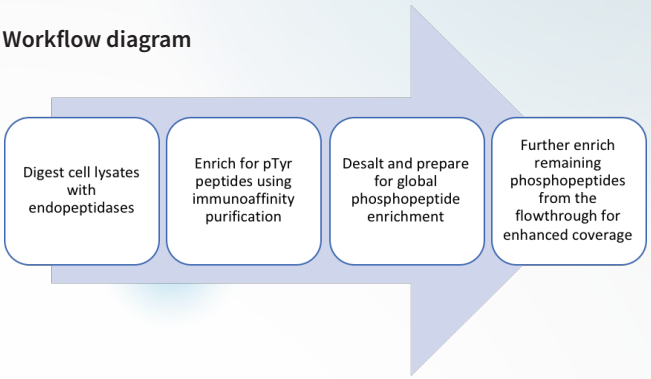
NSF-ISR
Registered to ISO 9001

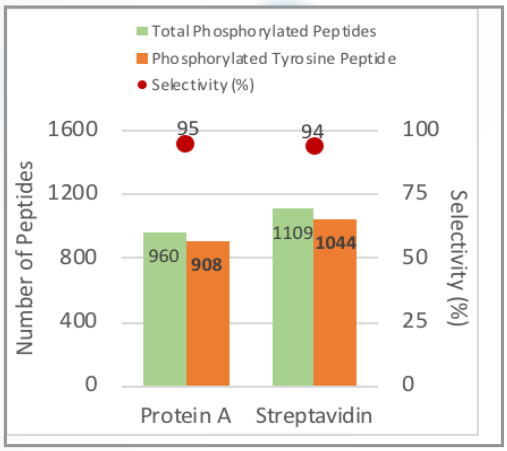
HIGH PERFORMANCE AND CONSISTENCY

Sequential purification of phosphopeptides:
1. Primary enrichment of pTyr using automated workflow with pY1000 or 4G10 anti-pTyr antibody

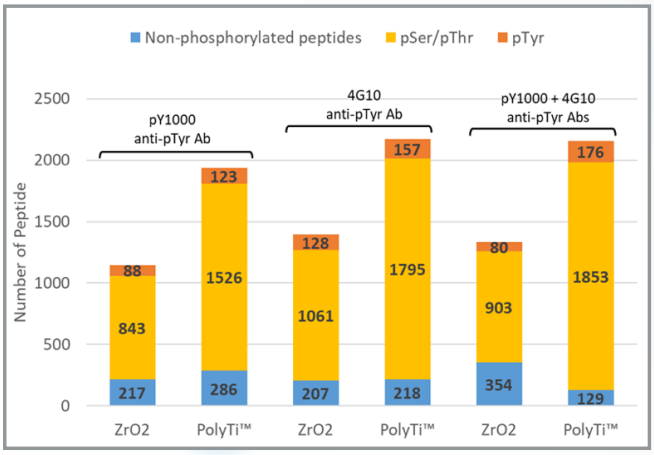
2. Secondary enrichment of phosphopeptides using ZrO_2 or PolyTi™ for enrichment and analysis of pSer/pThr targets.

Workflow diagram

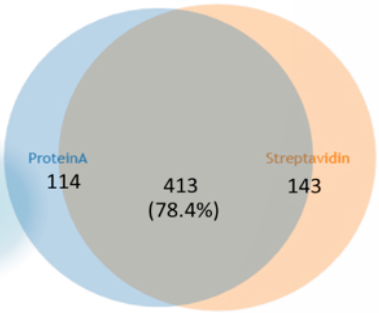




The specificity of pTyr peptide enrichment from all identified phosphopeptides using Protein A and Streptavidin IMCStips were 94.6% and 94.1 %, respectively.



pTyr enrichment was performed using either pY1000 antibody (Cell Signaling Technology), 4G10 antibody (MilliporeSigma), or 1:1 mix of these two antibodies with streptavidin IMCStips. Subsequent comprehensive phosphorylated peptides enrichment of pTyr immunoaffinity flowthroughs was performed using ZrO_2 and PolyTi™ IMCStips. While there was no difference of the enrichment efficiency of these two resins from fresh digests, PolyTi™ IMCStips identified > 1.7 times more phosphorylated peptides than ZrO_2 IMCStips.



The overlap of identified phosphorylated tyrosine (pTyr) protein using either streptavidin or protein A IMCStips was 78.4%.

Product Description	Catalog Number Rack of 8	Catalog Number Rack of 96
PolyTi™ 5 mg resin-300 µL tips	04T-H3R73-1-5-8	04T-H3R73-1-5-96
ZrO_2 5 mg resin-300 µL tips	04T-H3R68-1-5-8	04T-H3R68-1-5-96
Protein A 5 µL resin - 300 µL tips	04T-H3R80-1-5-8	04T-H3R80-1-5-96
Streptavidin 3 µL resin- 300 µL tips	04T-H3R85-1-3-8	04T-H3R85-1-3-96

imcs
integrated micro-chromatography systems

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- Call, email or visit **www.imcstips.com** to order Phosphopeptide Enrichment IMCStips®
- Schedule a consultation with an IMCS technical sales representative for more information.

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