ISOLUTE® PPT+ Protein Precipitation Plates

- 'Solvent first' methodology
- Eliminate cloudy extracts
- No well blockage
- No vortex mixing required
- Optimized for automation

PROTEIN PRECIPITATION BY FILTRATION

Protein precipitation is a routinely used sample preparation technique for removal of proteins from biological fluid samples prior to analysis. Protein precipitation in the 96-well format, using filtration for protein removal, is a high throughput alternative to the traditional centrifugation based technique.

The design of most filterplates requires the plasma sample to be dispensed into the well before the precipitating solvent can be added. This approach can lead to cloudy extracts caused by incomplete precipitation. Successful protein removal can depend on difficult to automate factors such as the speed of solvent delivery, vortex mixing or inversion of the plate. Methods can be non-robust and well blockage is common.

Sample preparation using ISOLUTE® PPT+ Protein Precipitation Plates is fast and simple. The optimized filtration system in ISOLUTE PPT+ plates provides an easy to automate solution for efficient protein removal. The procedure is streamlined, with no awkward off-line steps.

'SOLVENT FIRST' PROCEDURE MAXIMIZES PRECIPITATION EFFICIENCY

The proprietary functionalized bottom frit holds up organic precipitation solvent while the plasma sample is added, maximizing contact time and giving the most efficient precipitation effect. No vortex mixing is required. The purified sample does not pass into the collection plate until vacuum is applied. (see **figure 1**)

DEPTH FILTER ELIMINATES WELL BLOCKING

Unlike membrane based devices, the system has an optimized porosity distribution and acts as a depth filter, holding up the precipitated protein without well blockage.

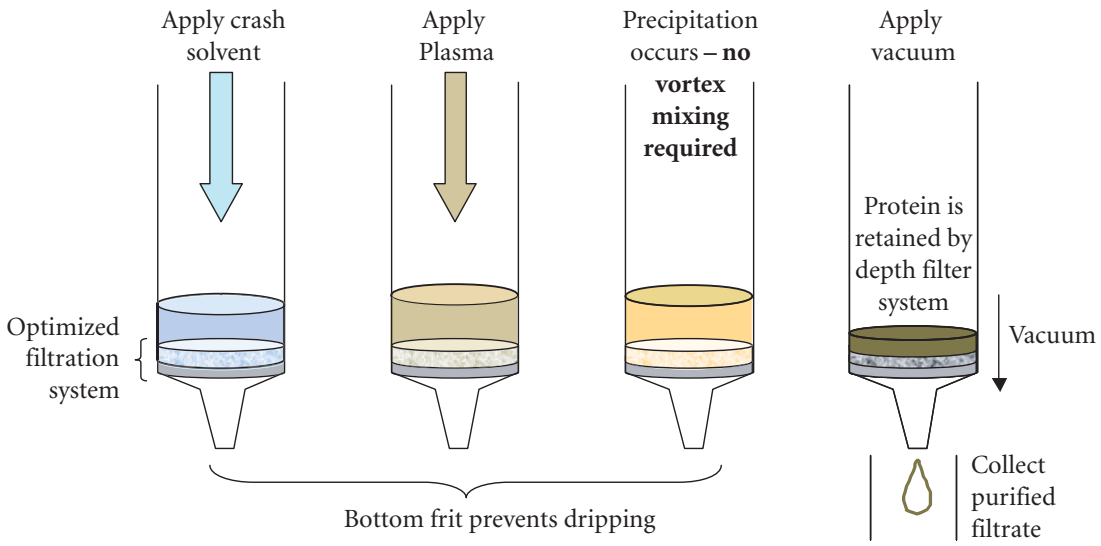
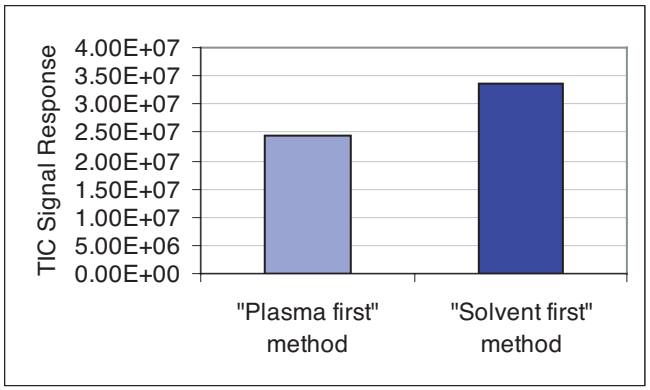


***Figure 1**. Sample Preparation using ISOLUTE PPT+ Protein Precipitation Plates*

RAPID NON-SELECTIVE SAMPLE CLEAN-UP

Using the 'solvent first' methodology, ISOLUTE PPT+ plates consistently produce clear filtrates. This reduces ion suppression and improves the accuracy of LC-MS/MS analysis compared to alternative protein precipitation procedures. Up to 96 samples containing acidic, basic or neutral drug compounds can be purified simultaneously in less than ten minutes.



The 'solvent first' method of protein precipitation, using ISOLUTE PPT+ plates, is more efficient, removing more protein and reducing ion suppression effects compared to the 'plasma first' method.

PLATE AND PROCESSING OPTIONS

ISOLUTE PPT+ is available in both fixed well and versatile format 96-well plates. Both formats can be manually processed using the VacMaster™-96 Sample Processing Manifold. The simple procedure can be fully automated using 96-well liquid handling systems.

Refer to Chemistry Data Sheet **TN130 Sample Preparation using ISOLUTE PPT+ Protein Precipitation Plates** for full methodology details.

ORDERING INFORMATION

Part Number	Description	Quantity
Fixed Well Plate		
120-2040-P01	ISOLUTE PPT+ fixed well plate, 2 mL	1
Versatile ISOLUTE Array Plate		
120-2040-R	ISOLUTE Array PPT+ wells, 1 mL	100
120-2040-T	ISOLUTE Array PPT+ wells, 2 mL	100
120-2040-RP	ISOLUTE Array PPT+ plate, 1 mL	1
120-2040-TP	ISOLUTE Array PPT+ plate, 2 mL	1
ISOLUTE Array Accessories		
120-1000-P01	ISOLUTE Array base plate	1
120-1200	Strip of 8 base plate sealing plugs*	50
120-1201	Luer adaptors (to fit any standard sample processing manifold)	25
120-1202	Well removing tool	1

*Required when processing a partially populated ISOLUTE Array PPT+ plate

Collection Plates

Collection plate options:

1. 1 mL
2. 2 mL

Part Number	Description	Quantity
121-5202	Collection plate - 1 mL	50
121-5203	Collection plate - 2 mL	50

VacMaster-96 Sample Processing Manifold

Part Number	Description	Quantity
121-9600	VacMaster-96 manifold only[1]	1
121-9601	VacMaster-96 Vacuum Control Unit[2]	1
121-9602	VacMaster-96 Vacuum Control Unit with integral vacuum source[3]	1

[1] Option does not include a vacuum control unit, supplied for use with automated liquid handling systems with in-built vacuum source

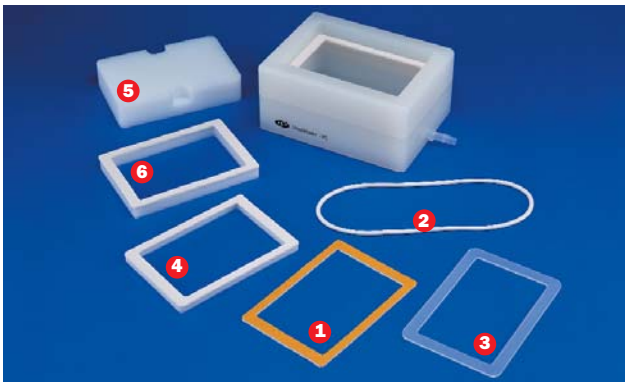
[2] Option for use in laboratories with a vacuum source

[3] Option for use in laboratories with a compressed air source

VacMaster-96 Manifold Accessories and Replacement Parts

	Description	1	121-9612
1	VacMaster-96 manifold replacement gasket	1	121-9613
2	VacMaster-96 manifold replacement 'O' ring	1	121-9614
3	Collection plate spacer (2 mm) for deep well format	1	121-9610
4	ISOLUTE Array plate insert (6 mm) for VacMaster-96 manifold (Acetal)[4]	1	121-9615
5	Collection plate spacer (29 mm) for shallow well format	1	121-9611
6	VacMaster-96 manifold insert (12 mm) for "short skirt" plates		

[4] *Supplied as standard with VacMaster-96 manifold*



VacMaster-96 manifold accessories and replacement parts

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UNITED STATES AND CANADA
Main Office: +1 434 979 2319
Toll Free: +1 800 446 4752
Fax: +1 434 979 4743
Order Tel: +1 434 220 2687
Order Fax: +1 434 296 8217
ordermailbox@biotage.com

SWEDEN
Main Office: +46 18 56 5900 Fax: +46 18 59 1922
Order Tel: +46 18 56 57 10
Order Fax: +46 18 56 57 05
order@eu.biotage.com

JAPAN
Tel: +81 422 28 1233
Fax: +81 422 28 1236
order@biotage.co.jp

GERMANY
Tel: +49 7624 90 80 0
Fax: +49 7624 90 80 10
separtis@eu.biotage.com

AUSTRIA
Tel: +43 2231 63167
Fax: +43 2231 63520
separtis@eu.biotage.com

SWITZERLAND
Tel: +41 61 743 90 15
Fax: +41 61 743 90 18
separtis@eu.biotage.com

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