

# Organic Solvent-Based Protein Precipitation for Robust Proteome Purification Ahead of Mass Spectrometry

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jove.com/video/63503

## Materials

Name	Company	Catalog Number	Comments
Acetone	Fisher Scientific	AC177170010	≤0.002 % aldehyde
Acetonitrile	Fisher Scientific	A998-4	HPLC grade
Ammonium Bicarbonate	Millipore Sigma	A6141-1KG	solid
Beta mercaptoethanol	Millipore Sigma	M3148-25ML	Molecular biology grade
Bromophenol blue	Millipore Sigma	B8026-5G	Bromophenol blue sodium salt
Chloroform	Fisher Scientific	C298-400	Chloroform
Formic Acid	Honeywell	56302	Eluent additive for LC-MS
Fusion Lumos Mass Spectrometer	ThermoFisher Scientific		for analysis of standard protein mixture
Glycerol	Millipore Sigma	356352-1L-M	For molecular biology, > 99%
Isopropanol	Fisher Scientific	A4641	HPLC grade
Methanol	Fisher Scientific	A452SK-4	HPLC grade
Microcentrifuge	Fisher Scientific	75-400-102	up to 21,000 xg
Microcentrifuge Tube (1.5 mL)	Fisher Scientific	05-408-130	tapered bottom
Microcentrifuge Tube (2 mL)	Fisher Scientific	02-681-321	rounded bottom
Micropipette Tips (0.1-10 µL)	Fisher Scientific	21-197-28	Universal pipet tip, non-sterile
Micropipette Tips (1-200 µL)	Fisher Scientific	07-200-302	Universal pipet tip, non-sterile
Micropipette Tips (200-1000 µL)	Fisher Scientific	07-200-303	Universal pipet tip, non-sterile
Micropipettes	Fisher Scientific	13-710-903	Micropipet Trio pack
Pepsin	Millipore Sigma	P0525000	Lyophilized powder, >3200 units/ mg
ProTrap XG	Proteoform Scientific	PXG-0002	50 complete units per box
Sodium Chloride	Millipore Sigma	S9888-1KG	ACS reagent, >99 %
Sodium Dodecyl Sulfate	ThermoFisher Scientific	28312	powdered solid
timsTOF Pro Mass Spectrometer	Bruker		for analysis of liver proteome extract
Trifluoroacetic Acid	ThermoFisher Scientific	L06374.AP	99%
Tris	Fisher Scientific	BP152-500	Molecular biology grade
Trypsin	Millipore Sigma	9002-07-7	From bovine pancreas, TPCK-treated

Urea	Bio-Rad	1610731	solid
Water (deionized)	Sartorius Arium Mini Water Purification System	76307-662	Type 1 ultrapure (18.2 MΩ cm)
Zinc Sulfate	Millipore Sigma	307491-100G	solid