

Materials List for:

Optimal Preparation of Formalin Fixed Samples for Peptide Based Matrix Assisted Laser Desorption/Ionization Mass Spectrometry Imaging Workflows

Matthew B. O'Rourke^{1,2}, Matthew P. Padula², Caine Smith³, Priscilla Youssef⁴, Stuart Cordwell¹, Paul Witting⁴, Greg Sutherland³, Ben Crossett¹

¹Mass Spectrometry Core Facility, University of Sydney

²Proteomics Core Facility, University of Technology Sydney

³Neuropathology Group, Discipline of Pathology, School of Medical Sciences, University of Sydney

⁴Redox Biology Group, Discipline of Pathology, School of Medical Sciences, University of Sydney

Correspondence to: Matthew B. O'Rourke at matthew.ourourke@sydney.edu.au

URL: <https://www.jove.com/video/56778>

DOI: [doi:10.3791/56778](https://doi.org/10.3791/56778)

Materials

Name	Company	Catalog Number	Comments
Cryo Microtome	Leica	CM3050	For preparation and section of tissue.
Indium Tin Oxide Microscope slides	Bruker	8237001	For preparation and section of tissue.
Coplin Jars	Sigma Aldrich	S5516	For preparation and section of tissue.
Pressure Cooker	Kambrook	KPR620BSS	For preparation and section of tissue.
Sublimator	Chem Glass	NA	For sublimation procedure. Similar in design to the CG-3038 however it was custom made
Sand bath	NA	NA	For sublimation procedure. Fine grade river sand held in folded aluminium foil sourced from outside not from any specific company
Glass Petri Dish	Sigma Aldrich	CLS70165100	For sublimation procedure.
Vacuum Pump	NA	NA	For sublimation procedure. Sourced as a spare part from an old mass spectrometer
Cold trap	Chem Glass	CG-4510-02	For sublimation procedure.
Hot Plate	John Morris	EW-15956-32.	For sublimation procedure.
Plastic petri dish	Sigma Aldrich	Z717223	For sublimation procedure.
37 °C incubator	NA	NA	For sublimation procedure. Not applicable, incubator is non sterile and over 30 years old
Blotting paper	Sigma Aldrich	P7796	For sublimation procedure.
Nitrocellulose	Sigma Aldrich	N8395	For washing of slides.
Acetone	Sigma Aldrich	650501	For washing of slides.
Xylene	Sigma Aldrich	214736	For washing of slides.
100% EtOH	Sigma Aldrich	1.02428	For washing of slides.
70% EtOH	Sigma Aldrich	NA	For washing of slides. Made in lab from 95% stock ethanol
Chloroform	Sigma Aldrich	C2432	For washing of slides.
Glacial Acetic Acid	Sigma Aldrich	ARK2183	For washing of slides.
Tris HCL pH 8.8	Sigma Aldrich	TRIS-RO	For proteolytic cleavage. Powder made to 1M followed by

			equilibration with 32% HCl to PH 8.8
Milli Q Ultra-Pure Water	Sigma Aldrich	NA	For proteolytic cleavage. Purification performed in house by sartorius water purification system
Ammonium Bircarbonate	Sigma Aldrich	A6141	For proteolytic cleavage.
Trypsin	Sigma Aldrich	T0303	For proteolytic cleavage.
CHCA Matrix	Sigma Aldrich	C2020	For recrystallisation.
Acetonitrile	Sigma Aldrich	1.00029	For recrystallisation.
Trifluoroacetic Acid (TFA)	Sigma Aldrich	302031	For recrystallisation.