

Materials List for

# Industrialized, Artificial Intelligence-guided Laser Microdissection for Microscaled Proteomic Analysis of the Tumor Microenvironment

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jove.com/video/64171

## Materials

Name	Company	Catalog Number	Comments
1260 Infinity II System	Agilent Technologies Inc		Offline LC system
96 MicroCaps (150uL) in bulk	Pressure Biosciences Inc	MC150-96	
96 MicroPestles in bulk	Pressure Biosciences Inc	MP-96	
96 MicroTubes in bulk (no caps)	Pressure Biosciences Inc	MT-96	
9mm MS Certified Clear Screw Thread Kits	Fisher Scientific	03-060-058	Sample vial for offline LC fractionation and mass spectrometry
Acetonitrile, Optima LC/MS Grade	Fisher Chemical	A995-4	Mobile phase solvent
Aperio AT2	Leica Microsystems	23AT2100	Slide scanner
Axygen PCR Tubes with 0.5 mL Flat Cap	Fisher Scientific	14-222-292	Sample tubes; size fits PCT tubes and thermocycler
Barocycler 2320EXT	Pressure Biosciences Inc	2320-EXT	Barocycler
BCA Protein Assay Kit	Fisher Scientific	P123225	
cOplete, Mini, EDTA-free Protease Inhibitor Cocktail	Roche	11836170001	
Easy-nLC 1200	Thermo Fisher Scientific		Liquid Chromatography
EasyPep Maxi Sample Prep Kit	Thermo Fisher Scientific	NCI5734	Post-label sample clean up column
EASY-SPRAY C18 2UM 50CM X 75	Fisher Scientific	ES903	Analytical column
Eosin Y Solution Aqueous	Sigma Aldrich	HT110216	
Formic Acid, 99+ %	Thermo Fisher Scientific	28905	Mobile phase additive
ggplot2 version 3.3.5	CRAN	<a href="https://cran.r-project.org/web/packages/ggplot2/">https://cran.r-project.org/web/packages/ggplot2/</a>	
HALO	Indica Labs		Image analysis software

IDLE (Integrated Development and Learning Environment)	Python Software Foundation		
iheatmapr version 0.5.1	CRAN	<a href="https://cran.r-project.org/web/packages/iheatmapr/">https://cran.r-project.org/web/packages/iheatmapr/</a>	
iRT Kit	Biognosys	Ki-3002-1	LC-MS QAQC Standard
limma version 3.42.2	Bioconductor	<a href="https://bioconductor.org/packages/release/bioc/html/limma.html">https://bioconductor.org/packages/release/bioc/html/limma.html</a>	
LMD Scanning stage Ultra LMT350	Leica Microsystems	11888453	LMD stage model outfitted with PCT tube holder
LMD7 (software version 8.2.3.7603)	Leica Microsystems		LMD apparatus (microscope, laser, camera, PC, tablet)
Mascot Server	Matrix Science		Data analysis software
Mass Spec-Compatible Human Protein Extract, Digest	Promega	V6951	LC-MS QAQC Standard
Mayer's Hematoxylin Solution	Sigma Aldrich	MHS32	
PEN Membrane Glass Slides	Leica Microsystems	11532918	
Peptide Retention Time Calibration Mixture	Thermo Fisher Scientific	88321	LC-MS QAQC Standard
Phosphatase Inhibitor Cocktail 2	Sigma Aldrich	P5726	
Phosphatase Inhibitor Cocktail 3	Sigma Aldrich	P0044	
Pierce LTQ Velos ESI Positive Ion Calibration Solution	Thermo Fisher Scientific	88323	Instrument calibration solution
PM100 C18 3UM 75UMX20MM NV 2PK	Fisher Scientific	164535	Pre-column
Proteome Discoverer	Thermo Fisher Scientific	OPTON-31040	Data analysis software
Python	Python Software Foundation		
Q Exactive HF-X	Thermo Fisher Scientific		Mass spectrometer
R version 3.6.0	CRAN	<a href="https://cran-archive.r-project.org/bin/windows/base/old/2.6.2/">https://cran-archive.r-project.org/bin/windows/base/old/2.6.2/</a>	
RColorBrewer version 1.1-2	CRAN	<a href="https://cran.r-project.org/web/packages/RColorBrewer/">https://cran.r-project.org/web/packages/RColorBrewer/</a>	
Soluble Smart Digest Kit	Thermo Fisher Scientific	3251711	Digestion reagent
TMTpro 16plex Label Reagent Set	Thermo Fisher Scientific	A44520	isobaric TMT labeling reagents
Veriti 60 well thermal cycler	Applied Biosystems	4384638	Thermocycler
Water, Optima LC/MS Grade	Fisher Chemical	W6-4	Mobile phase solvent
ZORBAX Extend 300 C18, 2.1 x 12.5 mm, 5 µm, guard cartridge (ZGC)	Agilent Technologies Inc	821125-932	Offline LC trap column
ZORBAX Extend 300 C18, 2.1 x 150 mm, 3.5 µm	Agilent Technologies Inc	763750-902	Offline LC analytical column