

Materials List for

Semi-Quantitative Analysis of Peptidoglycan by Liquid Chromatography Mass Spectrometry and Bioinformatics

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Materials

Name	Company	Catalog Number	Comments
Equipment			
C18 reverse phase column - AdvanceBio Peptide column (100 mm x 2.1 mm 2.7 µm)	Agilent		LC-MS data acquisition
Heating mantle controller, Optichem	Fisher	50-401-788	for 4% SDS boil
Heating Mantle, 1000mL Hemispherical	Fisher	CG1000008	for 4% SDS boil
Incubator, 37°C			for sacculi purification and MS sample prep
Leibig condenser, 300MM 24/40,	Fisher	CG121805	for 4% SDS boil
Lyophilizer	Labconco		for lyophilization of sacculi
Magnetic stirrer	Fisher	90-691-18	for 4% SDS boil
mass spectrometer Q-ToF model UHD 6530	Agilent		LC-MS data acquisition
microcentrifuge filters, Nanosep MF 0.2 µm	Fisher	50-197-9573	cleanup of sample before MS injection
Retort stand	Fisher	12-000-102	for 4% SDS boil
Retort clamp	Fisher	S02629	for 4% SDS boil
round bottom flask - 1 liter pyrex	Fisher	07-250-084	for 4% SDS boil
Sonicator model 120	Fisher	FB120	for sacculi purification
Sonicator - micro tip	Fisher	FB4422	for sacculi purification
Ultracentrifuge	Beckman		sacculi wash steps
Ultracentrifuge bottles, Ti45	Fisher	NC9691797	sacculi wash steps
Water supply	City		for water cooled condenser
Software			
Chemdraw	Cambridgesoft		molecular editor for muropeptide fragmentation prediction
Excel	Microsoft		viewing lists of annotated muropeptides, abundance, isotopic patterns, etc.

MassHunter Acquisition	Aglient		running QTOF instrument
MassHunter Mass Profiler Professional	Aglient		bioinformatic differential analysis
MassHunter Personal Compound Database and Library Manager	Aglient		muropeptide m/z MS database
MassHunter Profinder	Aglient		recursive feature extraction
MassHunter Qualitative analysis	Aglient		viewing MS and MS/MS chromatograms
Prism	Graphpad		Graphing software
Perseus	Max Plank Institute of Biochemistry		1D annotation
Material			
Acetonitrile	Fisher	A998-4	
Ammonium acetate	Fisher	A637	
Amylase	Sigma-Aldrich	A6380	
Boric acid	Fisher	BP168-1	
DNase	Fisher	EN0521	
Formic acid	Sigma-Aldrich	27001-500ML-R	
LC-MS tuning mix - HP0321	Agilent	G1969-85000	
Magnesium chloride	Sigma-Aldrich	M8266	
Magnesium sulfate	Sigma-Aldrich	M7506	
Mutanolysin from Streptomyces globisporus ATCC 21553	Sigma-Aldrich	M9901	
Nitrogen gas (>99% purity)	Praxair	NI 5.0UH-T	
Phosphoric acid	Fisher	A242	
Pronase E from Streptomyces griseus	Sigma-Aldrich	P5147	
RNase	Fisher	EN0531	
Sodium azide	Fisher	S0489	
Sodium borohydride	Sigma-Aldrich	452890	
Sodium dodecyl sulfate (SDS)	Fisher	BP166	
Sodium hydroxide	Fisher	S318	
Sodium Phosphate (dibasic)	Fisher	S373	
Sodium Phosphate (monobasic)	Fisher	S369	
Stains-all	Sigma-Aldrich	E9379	