

Materials List for

Rapid Antimicrobial Susceptibility Testing by Stimulated Raman Scattering Imaging of Deuterium Incorporation in a Single Bacterium

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Materials

Name	Company	Catalog Number	Comments
Acousto-optic modulation	Gooch&Housego	R15180-1.06-LTD	Modulating stokes laser beam
Amoxicillin	Sigma Aldrich	A8523-5G	
Bandpass filter	Chroma	HQ825/150m	Block the stokes laser beam before the photodiode
Calcium chloride	Sigma Aldrich	C1016-100G	Cation adjustment
Cation-adjusted Mueller-Hinton Broth	Fisher Scientific	B12322	Antimicrobial susceptibility testing of microorganisms by broth dilution methods
Centrifuge	Thermo Scientific	75002542	
Cover Glasses	VWR	16004-318	
Culture tube with snap cap	Fisher brand	149569B	
Daptomycin	Acros	A0386346	
Deuterium oxide		151882	Organic solvent to dissolve antibiotics
Deuterium oxide-d6	Sigma Aldrich	156914	Organic solvent as a standard to calibrate SRS imaging system
Escherichia coli BW 25113	The Coli Genetic Stock Center	7636	
Eppendorf polypropylene microcentrifuge tubes 1.5 mL	Fisher brand	05-408-129	
Gentamicin sulfate	Sigma Aldrich	G4918	
Hydrophilic Polyvinylidene Fluoride filters	Millipore-Sigma	SLSV025NB	pore size 5 μm
ImageJ software	NIH	Version: 2.0.0-rc-69/1.52t	Image processing and analysis
Incubating orbital shaker set at 37 °C	VWR	97009-890	
Inoculation loop	Sigma	BR452201-1000EA	
InSight DeepSee femtosecond pulsed laser	Spectra-Physics	Model: insight X3	Tunable laser source and fixed laser source at 1045 nm for SRS imaging

Lock-in amplifier	Zurich Instrument	HF2LI	Demodulate the SRS signals
Oil condenser	Olympus	U-AAC	NA 1.4
<i>Pseudomonas aeruginosa</i> ATCC 47085 (PAO1)	American Type Culture Collection	ATCC 47085	
Photodiode	Hamamatsu	S3994-01	Detector
Polypropylene conical tube 15 mL	Falcon	14-959-53A	
Polypropylene filters	Thermo Scientific	726-2520	pore size 0.2 μm
Sterile petri dishes	Corning	07-202-031	
Syringe 10 mL	Fisher brand	14955459	
UV/Vis Spectrophotometer	Beckman Coulter	Model: DU 530	Measuring optical density at wavelength of 600 nm
Vortex mixer	VWR	97043-562	
Water objective	Olympus	UPLANAPO/IR	60 \times , NA 1.2