

Materials List for:

Electrochemical Detection of Deuterium Kinetic Isotope Effect on Extracellular Electron Transport in *Shewanella oneidensis* MR-1

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URL: <https://www.jove.com/video/57584>

DOI: [doi:10.3791/57584](https://doi.org/10.3791/57584)

Materials

Name	Company	Catalog Number	Comments
Glass cylinder	N/A	N/A	Custom-made, used as the electrochemical reactor
PTFE cover and base	N/A	N/A	Custom-made, used as a cover and a foundation of the electrochemical reactor
Buthyl rubber	N/A	N/A	Custom-made, inserted between each component of electrochemical reactor
Septa	GL Science	3007-16101	Used as an injection port of electrochemical reactor
Indium tin-doped oxide (ITO) electrode	GEOMATEC	No.0001	Used as a working electrode, 5Ω/sq
Ag/AgCl KCl saturated electrode	HOKUTO DENKO	HX-R5	Used as a reference electrode, Φ0.30mm
Platinum wire	The Nilaco Cooperation	PT-351325	Used as a counter electrode
Luria-Bertani (LB) Broth, Miller	Becton, Dickinson and Company	244620	Medium for precultivation of <i>S. oneidensis</i> MR-1
Bacto agar	Becton, Dickinson and Company	214010	
Anthraquinone-1-sulfonate (α-AQS)	TCI	A1428	
Flavin mononucleotide (FMN)	Wako	184-00831	
NaHCO ₃	Wako	191-01305	Used for defined medium (DM)
CaCl ₂ · 2H ₂ O	Wako	031-00435	Used for DM
NH ₄ Cl	Wako	011-03015	Used for DM
MgCl ₂ · 6H ₂ O	Wako	135-00165	Used for DM
NaCl	Wako	191-01665	Used for DM
2-[4-(2-hydroxyethyl)-1-piperazinyl] ethanesulfonic acid (HEPES)	DOJINDO	346-08235	Used for DM
Sodium Lactate Solution	Wako	195-02305	
Bacto Yeast Extract	Becton, Dickinson and Company	212750	
Deuterium oxide (D, 99.9%)	Cambridge Isotope Laboratories, Inc.	DLM-4-PK	Additive for kinetic isotope effect experiments
Incubator	TOKYO RIKAKIKAI CO. LTD.	LTI-601SD	Used for precultivation
Shaker	TAITEC	NR-3	Used for precultivation
Autoclave machine	TOMY SEIKO CO. LTD.	LSX-500	Used for sterilization of the electrochemical reactor and the medium

Clean bench	SANYO	MCV-91BNF	Used to prevent the contamination of the electrochemical reactor and the medium with other microbes
Centrifuge separator	Eppendorf	5430R	Rotational speed upto 6000×g is required
Nitrogen gas generator	Puequ CO. LTD.	PNTN-2	Nitrogen gas cylinder can also be used instead of gas generator
UV-vis spectrometer	SHIMADZU	UV-1800	Used for optimization of cell density
Potentiostat	BioLogic	VMP3	Used for biofilm formation and kinetic isotope effect experiments
Thermal water circulator	AS ONE	TR-1A	Used for maintainance of temperature of electrochemcial reactor
Faraday cage	HOKUTO DENKO	HS-201S	Used for electrochemical experiments