

Materials List for:

Fluorescence Time-lapse Imaging of the Complete *S. venezuelae* Life Cycle Using a Microfluidic Device

Susan Schlimpert¹, Klas Flärdh², Mark J. Buttner¹

¹Department of Molecular Microbiology, John Innes Centre, Norwich Research Park

²Department of Biology, Lund University

Correspondence to: Susan Schlimpert at susan.schlimpert@jic.ac.uk

URL: <https://www.jove.com/video/53863>

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Materials

Name	Company	Catalog Number	Comments
B04A CellAsic ONIX plate for bacteria cells	Merck-Millipore	B04A-03-5PK	Microfluidic culture plates
CellAsic ONIX Microfluidic Perfusion System and ONIX FG (version 5.0.2)	Merck-Millipore	EV-262	The latest ONIX vesion (July 2015) and instructions on how to use the programme can be found here: http://www.merckmillipore.com
Axio Observer.Z1 Microscope	Zeiss	431007-9902-000	Fully automated and motorized inverted widefield microscope
Incubator XL multi S1 with Temperature Module S1 and Heating unit XL S2	Zeiss	411857-9061-000	Environmental chamber surrounding the microscope
Plan-Apochromat 100x/1.46 Oil DIC objective	Zeiss	420792-9800-000	
Ocra FLASH 4 V2	Hamamatsu Photonics K.K.	C11440-22CU	
Illuminator HXP 120V	Zeiss	423013-9010-000	
FL Filter Set 46 HE YFP shift free	Zeiss	489046-9901-000	Fluorescent filter set, excitation 500/25 nm, emission 535/30 nm
FL Filter Set 63 HE RFP shift free	Zeiss	489063-0000-000	Fluorescent filter set, excitation 572/25 nm, emission 629/30 nm
Mounting frame K-M for multiwell plates	Zeiss	000000-1272-644	Stage holder for microfluidic plate
ZEN pro 2012	Zeiss	410135-1002-120	Microscope control software
ZEN Module Time Lapse	Zeiss	410136-1031-110	Software module to set up time-lapse microscopy experiments
ZEN Module Tiles/Positions	Zeiss	410136-1025-110	Software module to save specific stage positions (xzy)
Fiji	open-source software package	http://fiji.sc/Fiji	Generation of time-lapse movies
Maltose-Yeast Extract-Malt Extract (MYM) 4 g Maltose 4 g Yeast extract 10 g Malt extract add 1 L H ₂ O using 50 % tap water and 50 % reverse osmosis water and supplement with 200 ml of R2 trace element solution per 100 ml after autoclaving			Sporulation medium used to culture <i>S. venezuelae</i> SV60
R2 Trace element solution (TE) 8 mg ZnCl ₂ 40 mg FeCl ₃ ·6H ₂ O 2 mg CuCl ₂ ·2H ₂ O 2 mg MnCl ₂ ·4H ₂ O			Add 0.002 volumes to MYM

2 mg $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ 2 mg $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$ add 200 ml H_2O Autoclave and store at 4 °C			
PBS (phosphate buffered saline)	Sigma	P4417-100TAB	Used to refill inlet wells of unused lanes in B04A plates in order to prepare plate for short-term storage.
0.22 μm syringe filters	Satorius stedim	16532-K	Preparation of spent MYM-TE
SV60	John Innes Centre strain collection		<i>S. venezuelae</i> strain expressing <i>divIVA-mcherry</i> and <i>ftsZ-ypet</i>