

Materials List for

Plasmodium falciparum Gametocyte Culture and Mosquito Infection Through Artificial Membrane Feeding

Abhai K Tripathi¹, Godfree Mlambo¹, Sachie Kanatani¹, Photini Sinnis¹, George Dimopoulos¹

¹Johns Hopkins Malaria Research Institute, W. Harry Feinstone Department of Molecular Microbiology and Immunology, Bloomberg School of Public Health, Johns Hopkins University

Corresponding Author

Abhai K Tripathi
atripat2@jhu.edu

Citation

Tripathi, A.K., Mlambo, G., Kanatani, S., Sinnis, P., Dimopoulos, G. *Plasmodium falciparum* Gametocyte Culture and Mosquito Infection Through Artificial Membrane Feeding. *J. Vis. Exp.* (), e61426, doi:10.3791/61426 (2020).

Date Published

July 3, 2020

DOI

10.3791/61426

URL

jove.com/video/61426

Materials

Name	Company	Catalog Number	Comments
10% Sugar solution			
10ml serological pipet	Falcon	357551	
15 ml conical tube	Falcon	352096	
1ml serological pipet	Falcon	357521	
25 ml serological pipet	Falcon	357535	
37°C Incubator			
50 ml conical tube	Falcon	352070	
5ml serological pipet	Falcon	357543	
6 well tissue culture plates	Falcon	353046	
70% Ethanol			
9" glass pipet	Fisherbrand	13-678-6B	
Anopheles Mosquitoes	JHMRI, Insectary core		We use <i>A. stephensi</i> or <i>A. gambiae</i> (keele)
cell counter			
Circulating water bath			
fine tip forceps	Fisherbrand	12-000-122	
Geimsa stain	Sigma	GS1L	
Glass desiccator			
Glass membrane feeder	Chemglass Life Sciences	CG183570	
Glass slides	Fisherbrand	12-552-3	
HBSS	Sigma	H6648	
Human Blood O+	JHU		Wash RBCs three times with RPMI and refrigerate at 50% heamatocrit
Human Serum O+	Interstate blood bank		Pool at-least 6 units of serum from different donors and freeze down aliquots at -20°C.
Hypoxanthine	Sigma	H9337	Make 500x stock in 1M NaOH

Mercurochrome	Sigma	M7011	Prepare 1% stock solution in PBS that can be diluted to 0.1% when needed
Micro Pipette			
Microscope	Olympus		Any microscope with 10x, 40x and 100x objective will work.
Mosquito cups	Neptune cups		
N-acetylglucosamine	Sigma	A3286	Optional and needed only when pure gametocytes are required.
Netting			Make sure it can contain mosquitoes and allow blood feeding
Parafilm			
PBS			
Petri dish	Thermo Scientific	249964	
Pipet tips			
Pipetman			
<i>Plasmodium falciparum</i> NF54	BEI Resources	MRA-1000	Freeze down large numbers of early passage culture to make sure you have a constant supply
RPMI 1640	Corning	CV-041-CV	Media contains glutamine and HEPES
Slide warmer			
Sodium bicarbonate	Sigma	S6297	Optional for media, add only when using malaria gas mix during culture incubation
water bath			
Xanthurenic Acid	Sigma	D120804	For flagellation media