

Materials List for

An In Vivo Assay to Quantify Bacterial Phagocytosis in Adult *Drosophila* Flies

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URL: <https://www.jove.com/video/21972>

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Materials

Name	Company	Catalog Number	Comments
0.2µm Red Fluorescent Carboxylate Modified FluoSpheres	Invitrogen	F8810	Fluorescently-labeled latex beads to test general phagocytic capacity of phagocytes. (~580/~605 nm) Inject a 1:20 dilution in PBS with 5% dye.
5430-10 PicoNozzle Kit	World Precision Instruments	5430-10	Holder for 1.0mm pipette
<i>E. coli</i> (K-12 Strain) BioParticles, Alexa Fluor 488 conjugate	Invitrogen	E13231	Killed <i>E. coli</i> labeled with Alexa Fluor 488. Use to test phagocyte recognition and uptake of gram-negative bacteria. (~495/~519 nm)
<i>E. coli</i> (K-12 Strain) BioParticles, Alexa Fluor 594 conjugate	Invitrogen	E23370	Killed <i>E. coli</i> labeled with Alexa Fluor 594. Use to test phagocyte recognition and uptake of gram-negative bacteria. (~590/~617 nm)
<i>E. coli</i> (K-12 Strain) BioParticles, Fluorescein conjugate	Invitrogen	E2861	Killed <i>E. coli</i> labeled with FITC (Fluorescein). Use to test phagocyte recognition and uptake of gram-negative bacteria. (~494/~518 nm)
<i>E. coli</i> (K-12 Strain) BioParticles, Texas Red conjugate	Invitrogen	E2863	Killed <i>E. coli</i> labeled with Texas Red. Use to test phagocyte recognition and uptake of gram-negative bacteria. (~595/~615 nm)
<i>E. coli</i> (K-12 Strain) BioParticles, Texas Red conjugate	Invitrogen	E2863	Killed <i>E. coli</i> labeled with Texas Red. Use to test phagocyte recognition and uptake of gram-negative bacteria. (~595/~615 nm)
Needle Pipette Puller	David Kopf Instruments	Model 725	
pHrodo Red <i>E. coli</i> BioParticles Conjugate for Phagocytosis	Invitrogen	P35361	Killed <i>E. coli</i> labeled with pHrodo Red. Use to test phagocyte recognition, uptake, and phagosome maturation of gram-negative bacteria. (~560/~585 nm). No need to quench with Trypan Blue.
pHrodo Red <i>S. aureus</i> BioParticles Conjugate for Phagocytosis	Invitrogen	A10010	Killed <i>S. aureus</i> labeled with pHrodo Red. Use to test phagocyte recognition, uptake, and phagosome maturation of gram-positive bacteria. (~560/~585 nm). No need to quench with Trypan Blue.
Pneumatic PicoPump PV820	World Precision Instruments	SYS-PV820	The World Precision Instruments Pneumatic PicoPump PV820 uses differential pressures to hold liquid in the glass needle between injections. The user manually controls short bursts of gas pressure to expel the liquid – allowing delivery of sub-nanoliter volumes. The amount of liquid delivered depends on two main

			variables – the size of the glass needle opening and the amount of time injection pressure is applied. set the instrument to 100 ms "TIMED" mode.
<i>S. aureus</i> (Wood Strain without protein A) BioParticles, Alexa Fluor 488 conjugate	Invitrogen	S23371	Killed <i>S. aureus</i> labeled with Alexa Fluor 488. Use to test phagocyte recognition and uptake of gram-positive bacteria. (~495/~519 nm)
<i>S. aureus</i> (Wood Strain without protein A) BioParticles, Alexa Fluor 594 conjugate	Invitrogen	S23372	Killed <i>S. aureus</i> labeled with Alexa Fluor 594. Use to test phagocyte recognition and uptake of gram-positive bacteria. (~590/~617 nm)
<i>S. aureus</i> (Wood Strain without protein A) BioParticles, Fluorescein conjugate	Invitrogen	E2851	Killed <i>S. aureus</i> labeled with FITC (Fluorescein). Use to test phagocyte recognition and uptake of gram-positive bacteria. (~494/~518 nm)
Thin Wall Glass Capillaries	World Precision Instruments	TW100F-3	Needles for injection. OD = 1.0 mm
Trypan Blue Solution (0.4%)	Sigma	T8154	Used to quench extracellular fluorescence of Fluorescein, Alexa Fluor, or Texas Red labeled particles.
ZEISS SteREO Microscope (Discovery.V8)	Zeiss	SteREO Discovery.V8	Inverted fluorescence microscope for imaging flies. Use a digital camera (example: AxioCam HC camera) and the accompanying software (example: AxioVision 4.7 software) to take pictures.
Zymosan A (<i>Saccharomyces cerevisiae</i>) BioParticles, Alexa Fluor 488 conjugate	Invitrogen	Z23373	Killed labeled with Alexa Fluor 488. Use to test phagocyte recognition and uptake of yeast. (~495/~519 nm)
Zymosan A (<i>Saccharomyces cerevisiae</i>) BioParticles, Alexa Fluor 594 conjugate	Invitrogen	Z23374	Killed labeled with Alexa Fluor 594. Use to test phagocyte recognition and uptake of yeast. (~590/~617 nm)
Zymosan A (<i>Saccharomyces cerevisiae</i>) BioParticles, Fluorescein conjugate	Invitrogen	Z2841	Killed labeled with FITC (Fluorescein). Use to test phagocyte recognition and uptake of yeast. (~494/~518 nm)
Zymosan A (<i>Saccharomyces cerevisiae</i>) BioParticles, Texas Red	Invitrogen	Z2843	Killed labeled with Texas Red. Use to test phagocyte recognition and uptake of yeast. (~595/~615 nm)