

Materials List for:

Assessing the Cellular Immune Response of the Fruit Fly, *Drosophila melanogaster*, Using an In Vivo Phagocytosis Assay

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Materials

| Name | Company | Catalog Number | Comments |
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| 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 |

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| | | | 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. |
| Zyosan 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) |
| Zyosan 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) |
| Zyosan 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) |
| Zyosan 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) |