

SEA PHAGES

Ordering Guide

Overview

This ordering guide provides information on vendors and lists all the **supplies, reagents and equipment** you will need to implement the Phage Discovery component of the course (see below). The supply list is tailored for the new SEA schools.

- To facilitate planning and ordering of the supplies necessary, and where appropriate, the *estimated* quantities for each item is included, either as per student or per class.
- Items listed as “optional” are not critical for implementing the course, though many would significantly simplify preparation for and implementation of the course.
- If you are considering substituting items listed in the list, check with the SEA Team for suitability of the substitutes. Some substitutes have been found to negatively impact experiments as described in SEA-PHAGES protocols.

Vendors

We have provided vendor information and catalog numbers for the supplies listed in this document. Note, however, that supplies can be purchased from any vendor of your choice, and that you should take advantage of better pricing on individual items when it is available.

- **Fisher Scientific**

HHMI has negotiated special pricing for supplies that are available from Fisher Scientific. These prices are listed in the “Fisher Scientific Quote” document available at seaphages.org. If you intend to take advantage of these pre-negotiated prices, please use the quote provided at the top of the document. *If the quote # provided does not work, or if your local Fisher representative is unable to apply the negotiated-prices, please contact the Thermo Fisher VAS Team to inform that you are part of the Science Education Alliance program with HHMI and would like to utilize an HHMI quote. Failing that, please contact us info@seaphages.org for assistance.*

Thermo Fisher VAS TEAM

Phone: 866-884-2019 | E-mail: cs.vastatlanta@thermofisher.com

Hours of operation: 7a.m. - 9p.m. eastern

- **New England Biolabs**

If you intend to purchase any reagents from New England Biolabs, remember to ask your local rep if there is an education discount available.

- **Ted Pella**

Electron Microscopy supplies can be purchased from this vendor.

Supplies for in-class Use

| Items | # per student | # per classroom | vendor | catalog # | Required for Training Module (minimum quantity needed) |
|---|---------------|-----------------|--------------------------|-----------------|---|
| Consumables | | | | | |
| Microcentrifuge tubes (Eppendorf) | 100 | | Fisher | 05-402-27 | 100 microcentrifuge tubes |
| Conical tubes (15mL) | 10 | | Fisher | 05 539 12 | 10 conical tubes |
| Conical tubes (50mL) | 10 | | Fisher | 06 443 18 | 10 conical tubes |
| Vented conical tubes | optional (3) | optional | Fisher | 50-202-015 | |
| Micropipet tips, box (p1000) | | optional | Fisher | 02-717-352 | 2 x 96 pipettes tips |
| Micropipet tips, box (p20-200) | 3 | | Fisher | 02-717-351 | 6 x 96 pipettes tips |
| Micropipet tips, box (p10) | 1 | | Fisher | 02-717-350 | 2 x 96 pipettes tips |
| Serological pipette (5mL or 10 mL) | 50 | | Fisher | 13 678 11D | 100 serological pipettes |
| Syringe (5mL) | 10 | | ColePalmer | 07944-02 | 20 syringes |
| Syringe filter (0.22um) | 10 | | Fisher | 09 927 43A | 20 syringes |
| Sterile wooden sticks or loop | | optional | Fisher | 23 400 112 | 50 sterile sticks or loops |
| Tube top filtration system | 5 | | Fisher; no HHMI discount | 976134 | 8 units |
| Cryogenic Tubes | | 1 | Fisher | 03-337-7Y | |
| Glassware | | | | | |
| Media bottle (100mL) | | optional | Fisher | FB800100 | |
| Baffled flasks, 250mL glass | 2 | | Fisher | 10-140-6A | |
| Baffled flask caps, 250mL glass | 2 | | | 14-957-85J | |
| Erlenmeyer flask | | optional | Fisher | 10 041 5D | |
| Culture tube | 40 | | Fisher | 14 961 27 | 100 tubes |
| Culture tube caps | 40 | | Fisher | 14 957 92 | 100 caps |
| Molecular Biology Supplies | | | | | |
| 1kb ladder 50ng/uL, aliquot (100uL) | | 2 | New England Biolabs | N3012S | 1 unit |
| Concentrated DNA loading dye | | 1 | Fisher | BP645 5 | 1 unit |
| DNase 1 | | 1 | Fisher | ICN10057520 | 1 unit |
| RNase A | | 1 | Fisher | BP25391 | 1 unit |
| Proteinase K | | 1 | Fisher | EO0491 | 1 unit |
| HaeIII + buffer (bacterial host-dependent) | | 2 | New England Biolabs | R0108S | 1 unit |
| NspI + buffer (bacterial host-dependent) | | 2 | New England Biolabs | R0602S | 1 unit |
| SacII + buffer (bacterial host-dependent) | | 2 | New England Biolabs | R0157S | 1 unit |
| Wizard DNA Clean-up System | | 1 | Fisher | PR A7280 | 1 unit |
| EM Supplies | | | | | |
| 200-400 mesh carbon-formvar coated copper | 1 | | Ted Pella | 01813 | optional |
| Uranyl Acetate 2%, aliquot (100uL) | | 1 | Fisher | NC1031425 | optional |
| EM reverse forceps | | 2 | Ted Pella | 5377-NM | optional |
| Pelco tabs | 1 | | Ted Pella | 16084-1 | optional |
| Whatman #3 filter paper wedges | 2 | | Fisher | 09 924 120 | optional |
| Parafilm (5x5cm) | | 2 | Fisher | 13 374 10 | optional |
| Grid storage box | | 1 | Ted Pella | 161-96 | optional |
| Small bench equipment | | | | | |
| Rack (13mm) | 1 | | Fisher | 14 809 60 | 1 unit |
| Rack (30mm) | 1 | | Fisher | 14 809 36 | 1 unit |
| Rack (microcentrifuge tube) | 1 | | Fisher | 05 541 25 | 1 unit |
| Bunsen burner (if gas line is available) | 0.5 | | Fisher | 17-012823 | 1 unit |
| Mobile Bunsen burner (if no available gas line) | 0.5 | | Fisher | S41872 | 1 unit, if gas line is not available |
| Butane Can Replacements (if no available gas) | 1 | | Fisher | S41873 | 1 unit, if gas line is not available |
| Striker | 0.5 | | Fisher | 12 007 | 1 unit |
| Vortexer | | optional | Fisher | see Fisher Site | |
| Microcentrifuge | 0.25 | | Fisher | 05 400 007 | 1 unit |
| Micropipettor (p20) | 1 | | Fisher | FBEO0020 | 1 unit |
| Micropipettor (p200) | 1 | | Fisher | FBEO0200 | 1 unit |
| Micropipettor (p1000) | | optional | Fisher | see quote | 1 unit |
| Pipette-aid | 1 | | Fisher | 13 683C | 1 unit |
| Specialty and large equipment (access) | | | | | |
| Balance | | 1 | Fisher | 01 912 407 | access required |
| High speed centrifuge | | optional | Fisher | 75 063 839 | access preferred |
| Shaking incubator (platform & clamps not) | | 1 | Fisher | 14 285 732 | access required |
| Heating block (inserts not included) | | 2 | Fisher | 88 860 021 | or water bath |
| Heating block inserts | | | Fisher | 88 860 113 | or water bath |
| Water bath | | 2 | Fisher | 07 202 155 | or heating blocks |
| Reach in incubator | | 1 | Fisher | 15-015-2645 | access required |
| Imaging system | | 1 | Fisher | UVP97019801 | access required |
| Nanodrop or other Spectrophotometer | | 1 | Fisher | ND200 | access required |
| Gel Rig and Power Supply | | 1 | Fisher | FB300Q | access required |
| Gel casting tray/comb (27 lanes) | | 2 | Fisher | OWA6 | or suitable precast gels |
| 4deg C refrigerator | | access required | Fisher | 20LREETS | access required |
| -20deg C freezer | | access required | Fisher | 05LFEETS | access required |

| | | | | | |
|---------------------------------------|----------------------|------------------------|--------------------------|------------------|---|
| -80deg C freezer | | access required | Fisher | 956PM | access required |
| Electron microscope | | access required | | | |
| Archiving Supplies | | | | | |
| Barcoded tubes (provided by HHMI) | 1 | | | | |
| DMSO (200uL) | | 1 | Fisher | BP231 100 | |
| Additional Supplies | | | | | |
| Labeling pen | 1 | | | | |
| Laboratory Notebook | 1 | | | | |
| Ruler | 0.5 | | | | |
| Timer | 0.5 | | | | |
| Computer/laptop | | access required | | | |
| Latex or vinyl gloves, (S,M,L,XL) | | 1 each | Fisher | 19 005 427 | |
| Sealable plastic bag | 4 | | | | |
| Microwave | | optional | | | |
| Reagents / Equipment for Prep | | | | | |
| Items | # per student | # per classroom | vendor | catalog # | |
| Chemicals/Media/Reagents | | | | | |
| EDTA, disodium salt | | optional | Fisher | BP120 500 | 20 g |
| Isopropanol | | 1L | Fisher | A451 1 | 20 ml |
| Ethanol | | 1L | Fisher | BP2818500 | |
| Agarose | | 25g | Fisher | BMA50001 | 5 g or 2 precast gels |
| Dextrose, anhydrous | | 500g | Fisher | D16 500 | 80 g |
| Glycerol | | 500mL | Fisher | AAA16205AP | |
| 10X TAE/TBE | | 1L | Fisher | BMA50844 | 1 unit, or enough prepared TBE to perform 1 - 2 gel electrophoresis |
| Tris Base | | 1kg | Fisher | AC167620010 | 13 g |
| Calcium chloride | | 1kg | Fisher | C77 500 | 15 g |
| Sodium chloride | | 1kg | Fisher | BP358 1 | 5 g |
| Sodium Dodecyl Sulfate | | 10g | Fisher | BP820010 | 1 g |
| Magnesium Sulfate Anhydrous | | 500g | Fisher | M65-500 | 15 g |
| Cycloheximide | | 1g | Fisher | ICN10018301 | 1 unit |
| Ethidium bromide | | 1 | Fisher | BP1423 500 | 1 unit, or precast gels |
| Agar, bacteriological | | 250g | Fisher | BP1423 500 | 40 g |
| Peptone | | 500g | Fisher | BP1420 500 | 60 g |
| Yeast extract | | 500g | Fisher | BP1422-500 | 5 g |
| CiDecon (disinfectant) | | 3L | Fisher | 04 355 64 | 1 unit |
| Handsoap | | 1L | Fisher | 435516 | |
| Glassware/Consumables for Prep | | | | | |
| Baffled flasks, 1L | | 2 | Fisher | 10-140-6C | |
| Baffled flasks caps, 1L | | | | 14-957-85J | |
| Baffled flasks, 250mL glass | | 4 | Fisher | 10-140-6A | at least 2, ideally more |
| Baffled flasks caps, 250mL glass | | | | 14-957-85J | same quantity as flasks |
| Weigh boats small | optional | 1 | Fisher | 02-202-101 | 1 pack |
| Weigh boats large | optional | 1 | Fisher | 02-202-103 | 1 pack |
| Filtration units, 0.5-1L | | optional | Fisher; no HHMI discount | 09-761-34 | 2 units |
| Petri dishes, case of 500 | | 2 | Fisher | FB0875712 | 1 unit |
| Media bottles, 100mL | | optional | Fisher | FB800100 | 5 |
| Media bottles, 250mL | | optional | Fisher | FB800250 | |
| Media bottles, 500mL | | optional | Fisher | FB800500 | 2 |
| Media bottles, 1L | | optional | Fisher | FB8001000 | 2 |
| Beakers, 250mL | | optional | Fisher | 02 555 2 | |
| Beakers, 500mL | | optional | Fisher | 02 555 2 | |
| Beakers, 2L | | optional | Fisher | 02 555 2 | |
| Stir bars | | optional | Fisher | 14 513 61 | 2 |
| Equipment for Prep | | | | | |
| Autoclave | | access required | | | access required |
| Analytical balance | | access required | | | access required |
| Stir plates | | access required | | | access required |
| Thermometers | | optional | | | |