

Materials List for

Field Collection and Laboratory Maintenance of Canopy-Forming Giant Kelp to Facilitate Restoration

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Materials

Name	Company	Catalog Number	Comments
0.22 µm filters	Milipore	SCGPS05RE	Natural seawater sterilization
1 L glass bottles	Amazon	B07J6JP4D1	Natural seawater sterilization
1 µm filters (water + air)	Amazon	B01M1VWUWL	Natural seawater sterilization
1" PVC 90-Degree Elbow	Home Depot	203812125	Option 2 - Medium scale - Water bath systems
10 µm filters	Amazon	B00D04BG56	Natural seawater sterilization
20 µm filters	Amazon	B082WS9NPH	Natural seawater sterilization
3x5mm tubing	Amazon	B0852HXPN6	Option 1 Small scale - Incubator
4x4" Sterile Gauze	Amazon	B07NDK8XM3	Sporulation
4x6mm tubing	Amazon	B08BCRV1FY	Option 1 Small scale - Incubator
5 µm filters	Amazon	B082WS9NPH	Natural seawater sterilization
50 mL falcon tubing	Amazon	B01M04HGPI	Sporulation
8x10mm tubing	Amazon	B01MSM3LLZ	Option 1 Small scale - Incubator
Air filters	Thermo Fisher	MTGR85010	Option 1 Small scale - Incubator
Alcohol lamp	Amazon	B07XWD9WWC	Sporulation
Ammonium iron(II) sulfate hexahydrate ACS reagent, 99%	Sigma	215406-100G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Aquarium Grade Gravel	Amazon	B07XRCKFBJ	Option 1 Small scale - Incubator
Biotin powder, BioReagent, suitable for cell culture, suitable for insect cell culture, suitable for plant cell culture, 99%	Sigma	B4639-100MG	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Boric Acid, 99.8%, 10043-35-3, MFCD00011337, BH3O3, 61.83, 500g	Thermo Fisher	5090113707	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment

Calcium D-Pantothenate, 98.0% (T), C ₉ H ₁₇ NO ₅ , 137-08-6, 25g, D-Pantothenic Acid Calcium Salt, P0012-25G 1/EA	Thermo Fisher	P001225G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Check valves	Amazon	B08HRZR4MM	Option 1 Small scale - Incubator
Clear tubing 3/8" - 10 ft	Amazon	B07MTYMW13	Option 2 - Medium scale - Water bath systems
COBALT(II) SULFATE HEPTAH-100G, WARNING - California - Cancer Hazard, 93-2749-100G 1/EA	Thermo Fisher	5090114752	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Compound microscope with camera	OMAX	M83EZ-C50S	Monitoring
Culture flask	Thermo Fisher	07-250-080	Option 1 Small scale - Incubator
Culture light	Amazon	B07RRRPJ63	Option 1 Small scale - Incubator
Culture stoppers	Amazon	B07DX6J7QD	Option 1 Small scale - Incubator
Drainage connector	Amazon	B00GUZ6CV0	Option 2 - Medium scale - Water bath systems
EDTA CAS Number: 6381-92-6 Molecular Formula: C ₁₀ H ₁₄ N ₂ O ₈ Na ₂ · 2H ₂ O Molecular Weight: 372.2	Thermo Fisher	50213299	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Eisco Safety Pack Graduated Cylinder Sets Class A, ASTM, Capacity: 10 mL, 25 mL, 50 mL, Graduations: 0.2 mL, 0.5 mL, 1.0 mL, Borosilicate 3.3 Glass, Autoclavable: Yes, Class: Class A, Graduated: Yes, Tolerance: 0.10 mL, 0.17 mL, 0.25 mL	Thermo Fisher	S81273	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Eisco Safety Pack Graduated Cylinder Sets Class A, ASTM, Capacity: 50 mL, 100 mL, 250 mL, Graduations: 1.0 mL, 1.0 mL, 2.0 mL, Borosilicate 3.3 Glass, Autoclavable: Yes, Class: Class A, Graduated: Yes, Tolerance: 0.25 mL, 0.50 mL, 1.0 mL	Thermo Fisher	S81275	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Eisco Safety Pack Volumetric Flask Sets - Class A, ASTM, Capacity: 10 mL, 25 mL, 50 mL, Borosilicate 3.3 Glass, Autoclavable: Yes, Class: Class A, Closure Material: Glass, Closure Size: Stopper Number: 9, 9, 13, Closure Type: Penny Stopper, Graduated: Ye	Thermo Fisher	S81271	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Filter holder	Amazon	B07LCKBKCT	Natural seawater sterilization
Fisherbrand Graduated Cylinders, Capacity: 500 mL, Graduations: 5 mL, Borosilicate Glass, Autoclavable: Yes, Limit of Error: +/-4.0 mL, Recommended Applications: Education, Subdivision: 5 mL, S63460 1/EA	Thermo Fisher	S63460	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
FLEXACAM C1 Camera	Leica	FLEXACAM C1	Monitoring
Folic acid, C ₁₉ H ₁₉ N ₇ O ₆ , CAS Number 59303, vitamin m, pteroylglutamic acid, vitamin b9, folvite, folacin, folacid, pteroyllglutamic acid, pteglu, folic acid, folate, 25g, 100781, CHEBI:27470, Yellow to Orange, 2004190, 441.41, OVBPIULPVIDEAOLBPRGKRZSAN	Thermo Fisher	AAJ6083314	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment

Free Standing 20 Gallon Utility Sink	Amazon	B094TLH19L	Option 2 - Medium scale - Water bath systems
GERMANIUM DIOXIDE 99.99 10GR	Thermo Fisher	AC190000100	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Glass Graduated Cylinders, Class A Round Base, Eisco, For Use With: Measuring liquids, Capacity: 1000 mL, Graduations: 10 mL White, CH0344OWT 1/EA	Thermo Fisher	S88442	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Glass slides	Amazon	B00L1S93PS	Option 2 - Medium scale - Water bath systems
Glycerol phosphate disodium salt hydrate isomeric mixture	Sigma	G6501-100G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Growth containers -3.4 Qt- 3.25 Lt transparent containers with transparent lid	Container store	#10014828	Option 2 - Medium scale - Water bath systems
Growth light	Amazon	B086R14MFW	Option 1 Small scale - Incubator
Hemocytometer	Amazon	B07TJQDKLJ	Sporulation
Hinged plastic jars	SKS Bottle & Packaging	40280125.01S	Option 1 Small scale - Incubator
Inositol research grade, USP/ NF For bacteriology. Optically inactive. Tested for its suitability in tissue culture. Size - 100G Storage Conditions - +15 C TO +30 C Catalog Number - 26310.01 CAS 87-89-8	Thermo Fisher	50247745	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Instant Ocean - 50 G	Amazon	B000255NKA	Option 1 Small scale - Incubator
Inverted Microscope Leica DMI1	Leica	DMI1	Monitoring
Iron(III) chloride hexahydrate ACS reagent, 97%	Sigma	236489-100G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Licor Ligth Meter Data Logger	Licor	LI-250A	Monitoring
Light/temperature HOBO data logger	Amazon	B075X2SWKN	Monitoring
Lights 150W	Amazon	B0799DQM9V	Option 2 - Medium scale - Water bath systems
Manganese sulfate monohydrate meets USP testing specifications	Sigma	M8179-100G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Medium size rocks 2-3 inch, 20 pounds	Home Depot	206823930	Option 2 - Medium scale - Water bath systems
Nicotinic Acid, 99%, C6H5NO2, CAS Number59676, daskil, apelagrin, acidum nicotinicum, akotin, 3carboxypyridine, niacin, 3pyridinecarboxylic acid, nicotinic acid, pellagrin, wampocap, 250g, 109591, CHEBI:15940, 1.4, 2004410, 293 deg.C (559 deg.F), 123.11,	Thermo Fisher	AAA1268330	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
p-Aminobenzoic acid 99.82% 4-aminobenzoic acid, C7H7NO2, CAS Number: 150-13-0, 25g, 0210256925 1/EA	Thermo Fisher	ICN10256925	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
PCV cement	Amazon	B001D9WRWG	Option 2 - Medium scale - Water bath systems
Plastic water valve	Amazon	B0006JLVE4	Option 2 - Medium scale - Water bath systems

Plastic water valve	Amazon	B07G5FY7X1	Option 2 - Medium scale - Water bath systems
Precision scale 1mg	Amazon	B08DTH95FN	Materials to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Pump for filtered air	Amazon	B0BG2BT9RX	Option 1 Small scale - Incubator
PVC tubing 1x24"	Home Depot	202300505	Option 2 - Medium scale - Water bath systems
Quantum Light meter	Apogee Instruments	MQ-510	Monitoring
Refrigerated Incubator	Thermo Fisher	15-103-1566	Option 1 Small scale - Incubator
Rubber Grommets	Amazon	B07YZD22ZP	Option 1 Small scale - Incubator
Salinity refractometer	ATC	B018LRO1SU	Monitoring
Shade mesh 6x50 ft	Home depot	316308418	Option 2 - Medium scale - Water bath systems
Sodium Nitrate ge 99.0% Nitric Acid, Sodium Salt, NNaO3, CAS Number: 7631-99-4, 500g, 1/EA	Thermo Fisher	BP360500	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Soldering for aeration opening	Amazon	B08R3515SF	Option 2 - Medium scale - Water bath systems
Spray isoporopyl alcohol	Amazon	B08LW5P844	Sporulation
Stainless steel sissors	Amazon	B07BT4YLHT	Sporulation
Stainless steel tray	Amazon	B08CV33YXG	Sporulation
Stainless steel tweezers	Amazon	B01JTZTAJS	Sporulation
Stir Bars	Amazon	B07C4TNKXB	Materials to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Submersible circulation pump 400 GPH	Amazon	B07RZKRM13	Option 2 - Medium scale - Water bath systems
Submersible Spherical Quantum Sensor	Waltz	US-SQS/L	Monitoring
Temperature gun	Infrared Thermometer 749	B07VTPJXH9	Monitoring
Thiamine hydrochloride BioReagent, suitable for cell culture, suitable for insect cell culture, suitable for plant cell culture	Sigma	T1270-25G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Thymine 99% 2, 4-Dihydroxy-5-methylpyrimidine, C5H6N2O2, CAS Number: 65-71-4, 25g, 157850250 1/EA	Thermo Fisher	AC157850250	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Transparent Acrylic sheet 24x48 inch	Home Depot	202038048	Option 2 - Medium scale - Water bath systems
Tubing water circulation 1"x10 ft	Amazon	B07ZC1PSF3	Option 2 - Medium scale - Water bath systems
UV light for natural seawater sterilization	Amazon	B018OI7PYS	Natural seawater sterilization
Vacum pump	Amazon	B087XBTPVW	Natural seawater sterilization
Vitamin B12 BioReagent, suitable for cell culture, suitable for insect cell culture, suitable for plant cell culture, 98%	Sigma	V6629-100MG	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Volumetric Flasks, Class A Glass, Eisco, with Polypropylene Stopper, Graduated, White printed markings, Capacity: 1000 mL, CH04461WT 1/EA	Thermo Fisher	S89446	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment
Volumetric Flasks, Class A Glass, Eisco, with Polypropylene Stopper, Graduated, White printed markings,	Thermo Fisher	S89445	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment

Capacity: 500 mL, CH0446HWT 1/EA			
Water Chiller 200-600GPM	Amazon	B07BHHP71C	Option 2 - Medium scale - Water bath systems
Y-splitters for 4x6mm tubing	Amazon	B08XTJKFCH	Option 1 Small scale - Incubator
Zinc sulfate heptahydrate BioReagent, suitable for cell culture	Sigma	Z0251-100G	Chemicals to create Provasoli's Enriched Seawater (PES) and vitamins for media enrichment