Common Worm Media and Buffers  
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[Abstract] Here are recipes of some media and solutions often used in *C. elegans* research.

**Materials and Reagents**

1. Agar, peptone (BD Biosciences)  
2. Cholesterol (Sigma-Aldrich)  
3. Streptomycin (Sigma-Aldrich)  
4. Nystatin (Life Technologies, Gibco®)  
5. Bleach (Clorox)  
6. Potassium phosphate  
7. Clorox bleach  
8. NaCl  
9. CaCl₂  
10. MgSO₄  
11. EtOH  
12. FeSO₄.7H₂O  
13. Na₂EDTA  
14. MnCl₂.4H₂O  
15. ZnSO₄.7H₂O  
16. CuSO₄.5H₂O  
17. KH₂PO₄  
18. Na₂HPO₄

**Equipment**

1. 60 x 15 mm plate  
2. Plastic boxes
Recipes

1. Nematode growth medium (NGM) agar: For the maintenance of worms.
   For 1 liter medium
   3 g NaCl
   17 g agar
   2.5 g peptone
   1 ml cholesterol (5 mg ml\(^{-1}\) in 95% EtOH)
   975 ml H\(_2\)O
   Autoclave, and then add the following sterile solution (autoclaved)
   1 ml 1 M CaCl\(_2\)
   1 ml 1 M MgSO\(_4\)
   25 ml 1 M potassium phosphate (pH 6) (to avoid precipitation, mix between addition of
   MgSO\(_4\) and potassium phosphate)
   To make 1 M potassium phosphate (pH 6): For 1 liter, dissolve 136.1 g KH\(_2\)PO\(_4\) in about
   800 ml dH\(_2\)O, then adjust to pH 6.0 with solid KOH (approx 15 g) before bringing up to
   volume. Make 100 ml aliquots and autoclave.
   Need to add streptomycin (300 ng ml\(^{-1}\)) if plate is used for seeding bacterial food \textit{E coli}
   OP50-1. Typically pour 60 x 15 mm plate and store NGM plates in plastic boxes with
   covers at room temperature.

2. S-basal medium (adapted from the Kim Lab at Stanford): For liquid culture of worms.
   For 1 liter medium
   5.8 g NaCl
   50 ml 25 ml 1 M potassium phosphate (pH 6)
   1 ml cholesterol (5 mg ml\(^{-1}\) in 95% EtOH)
   950 ml dH\(_2\)O
   Autoclave, and then add the following sterile solution (autoclaved)
   3 ml 1 M CaCl\(_2\)
   3 ml 1 M MgSO\(_4\)
   10 ml trace metals solution
   10 ml 1 M potassium citrate (pH 6.0)
   10 ml 100x Nystatin (antifungal agent, keep in freezer; do not have to add it all the time).
   To make 500 ml trace metals solution
   0.346 g FeSO\(_4\).7H\(_2\)O
   0.930 g Na\(_2\)EDTA
   0.098 g MnCl\(_2\).4H\(_2\)O
   0.144 g ZnSO\(_4\).7H\(_2\)O
0.012 g CuSO₄·5H₂O
Sterilize by autoclaving. Keep in dark (wrap in foil).
To make 100 ml of 1 M potassium citrate: dissolve 21.02 g citric acid, monohydrate in 80 ml and adjust to pH 6.0 with solid KOH (approx 17g) before bringing up to volume.

3. Worm M9 buffer
3 g KH₂PO₄
6 g Na₂HPO₄
5 g NaCl
Add H₂O to 1 liter. Sterilize by autoclaving.
After solution cools down, add 1 ml autoclaved/sterile 1 M MgSO₄.

4. 100 ml 2x worm lysis solution: For worm egg prep
50 ml ddH₂O
10 ml 10 M NaOH
40 ml Clorox bleach
Make fresh and store at 4 °C up to one week.