# 347a: SYNTROPHOMONAS ZEHNDERI MEDIUM

| | | |
|---|---|---|
| **Solution A** | 921.00 | ml |
| **Solution B** | 30.00 | ml |
| **Solution C** | 1.00 | ml |
| **Solution D** | 25.00 | ml |
| **Solution E** | 10.00 | ml |
| **Solution F** | 10.00 | ml |
| **Solution G** | 10.00 | ml |

1. Dissolve ingredients of solution A, adjust pH to 7.0, then sparge with 80% $N_2$ and 20% $CO_2$ gas mixture for 30 - 45 min to make it anoxic. Distribute under the same gas atmosphere into anoxic Hungate-type tubes or serum vials and autoclave. Solution B is autoclaved separately under 80% $N_2$ and 20% $CO_2$ gas atmosphere. Solution C is prepared under 100% $N_2$ gas and sterilized by filtration. Solutions D, E, F and G are autoclaved under 100% $N_2$ gas. To complete the medium, appropriate amounts of the solutions B to G are added to solution A in the sequence indicated. Adjust pH of complete medium to 7.2, if necessary.

2. Note: Solutions D and F lead to a white precipitate which makes the medium very cloudy. Alternatively, solutions D and F can be replaced with 10 ml/l of a 14% (w/v) solution of Na-Caproate, which does not precipitate.

## Solution A

| | | |
|---|---|---|
| $KH_2PO_4$ | 0.50 | g |
| $MgCl_2$ x 6 $H_2O$ | 0.33 | g |
| NaCl | 0.40 | g |
| $NH_4Cl$ | 0.40 | g |
| $CaCl_2$ x 2 $H_2O$ | 0.05 | g |
| **Trace element solution SL-10** | 1.00 | ml |
| $Na_2SO_4$ | 2.80 | g |
| PIPES (SIGMA) | 15.00 | g |
| Sodium resazurin (0.1% w/v) | 0.50 | ml |
| Distilled water | 920.00 | ml |

## Solution B

| | | |
|---|---|---|
| $Na_2CO_3$ | 1.50 | g |
| Distilled water | 30.00 | ml |

## Solution C

| | | |
|---|---|---|
| **Seven vitamins solution** | 1.00 | ml |

## Solution D

| | | |
|---|---|---|
| Na-laurate | 2.78 | g |
| Distilled water | 25.00 | ml |

## Solution E

| | | |
|---|---|---|
| $CaCl_2$ x 2 $H_2O$ | 1.84 | g |
| Distilled water | 10.00 | ml |

## Solution F

| | | |
|---|---|---|
| L-Cysteine HCl x $H_2O$ | 0.30 | g |
| Distilled water | 10.00 | ml |

## Solution G

| | | |
|---|---|---|
| $Na_2S$ x 9 $H_2O$ | 0.30 | g |
| Distilled water | 10.00 | ml |

## Trace element solution SL-10 (from medium 320)

| | | |
|---|---|---|
| HCl (25%) | 10.00 | ml |
| $FeCl_2$ x 4 $H_2O$ | 1.50 | g |
| $ZnCl_2$ | 70.00 | mg |
| $MnCl_2$ x 4 $H_2O$ | 100.00 | mg |
| $H_3BO_3$ | 6.00 | mg |
| $CoCl_2$ x 6 $H_2O$ | 190.00 | mg |
| $CuCl_2$ x 2 $H_2O$ | 2.00 | mg |
| $NiCl_2$ x 6 $H_2O$ | 24.00 | mg |
| $Na_2MoO_4$ x 2 $H_2O$ | 36.00 | mg |
| Distilled water | 990.00 | ml |

First dissolve $FeCl_2$ in the HCl, then dilute in water, add and dissolve the other salts. Finally make up to 1000.00 ml.

## Seven vitamins solution (from medium 503)

| | | |
|---|---|---|
| Vitamin $B_{12}$ | 100.00 | mg |
| p-Aminobenzoic acid | 80.00 | mg |
| D-(+)-biotin | 20.00 | mg |
| Nicotinic acid | 200.00 | mg |
| Calcium pantothenate | 100.00 | mg |
| Pyridoxine hydrochloride | 300.00 | mg |
| Thiamine-HCl x 2 $H_2O$ | 200.00 | mg |
| Distilled water | 1000.00 | ml |