**383b: DESULFONAUTICUS MEDIUM**

<table>
<thead>
<tr>
<th>Solution</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution A</td>
<td>972.00 ml</td>
</tr>
<tr>
<td>Solution B</td>
<td>20.00 ml</td>
</tr>
<tr>
<td>Solution C</td>
<td>1.00 ml</td>
</tr>
<tr>
<td>Solution D</td>
<td>13.00 ml</td>
</tr>
</tbody>
</table>

1. Solution A is sparged with 80% \( \text{H}_2 \) and 20% \( \text{CO}_2 \) gas mixture to reach a pH below 6 (at least 30 min), then dispensed under the same gas atmosphere into anoxic Hungate-type tubes or serum vials to 30% of their volume and autoclaved. Solution B is autoclaved separately under 80% \( \text{N}_2 \) and 20% \( \text{CO}_2 \) gas atmosphere. Solutions C and E are autoclaved under 100% \( \text{N}_2 \) gas. Solution D is prepared under 100% \( \text{N}_2 \) gas and filter-sterilized. To complete the medium appropriate amounts of solutions B to E are added to the sterile solution A in the sequence as indicated. Final pH of the medium should be 7.0 – 7.2.

2. After inoculation pressurize vials to 2 bar overpressure with sterile 80% \( \text{H}_2 \) and 20% \( \text{CO}_2 \) gas mixture.

3. Note: Addition of 10 - 20 mg sodium dithionite per liter (e.g. from 5% (w/v) solution freshly prepared under \( \text{N}_2 \) and filter-sterilized) may stimulate growth of some strains at the beginning. For transfers use 5 - 10% inoculum. Incubate all strains in the dark.

For **DSM 4206, DSM 15269**: Supplement medium with 1.00 g/l Na-acetate, 2.00 g/l Trypticase peptone and 2.00 g/l yeast extract added to the autoclaved medium from sterile anoxic stock solutions prepared under \( \text{N}_2 \) gas.

For **DSM 15286, DSM 21156, DSM 101864**: Supplement medium with 1.00 g/l Na-acetate and 1.00 ml/l seven vitamins solution (see medium 503) added to the autoclaved medium from sterile and anoxic stock solutions. Vitamins are sterilized by filtration. Adjust pH of medium to 6.5 - 6.7 prior to inoculation.

For **DSM 111414**: Adjust pH of final medium to 6.6.

**Solution A**

\[ \begin{align*}
\text{Na}_2\text{SO}_4 & \quad 3.00 \text{ g} \\
\text{KH}_2\text{PO}_4 & \quad 0.20 \text{ g} \\
\text{NH}_4\text{Cl} & \quad 0.30 \text{ g} \\
\text{NaCl} & \quad 21.00 \text{ g} \\
\text{MgCl}_2 \times 6 \text{H}_2\text{O} & \quad 3.00 \text{ g} \\
\text{KCl} & \quad 0.50 \text{ g} \\
\text{CaCl}_2 \times 2 \text{H}_2\text{O} & \quad 0.15 \text{ g} \\
\text{Trace element solution SL-10} & \quad 1.00 \text{ ml} \\
\text{Selenite-tungstate solution} & \quad 1.00 \text{ ml} \\
\text{Sodium resazurin (0.1% w/v)} & \quad 0.50 \text{ ml} \\
\text{Distilled water} & \quad 970.00 \text{ ml}
\end{align*} \]
**Microorganisms**

383b: DESULFONAUTICUS MEDIUM

| Solution B |  
| Na₂CO₃ | 1.00  g  
| Distilled water | 20.00  ml  

| Solution C |  
| Wolin's vitamin solution (10x) | 1.00  ml  

| Solution D |  
| Na₂S x 9 H₂O | 0.40  g  
| Distilled water | 13.00  ml  

| Selenite-tungstate solution (from medium 385) |  
| NaOH | 0.50  g  
| Na₂SeO₃ x 5 H₂O | 3.00  mg  
| Na₂WO₄ x 2 H₂O | 4.00  mg  
| Distilled water | 1000.00  ml  

| Trace element solution SL-10 (from medium 320) |  
| HCl (25%) | 10.00  ml  
| FeCl₂ x 4 H₂O | 1.50  g  
| ZnCl₂ | 70.00  mg  
| MnCl₂ x 4 H₂O | 100.00  mg  
| H₃BO₃ | 6.00  mg  
| CoCl₂ x 6 H₂O | 190.00  mg  
| CuCl₂ x 2 H₂O | 2.00  mg  
| NiCl₂ x 6 H₂O | 24.00  mg  
| Na₂MoO₄ x 2 H₂O | 36.00  mg  
| Distilled water | 990.00  ml  

First dissolve FeCl₂ in the HCl, then dilute in water, add and dissolve the other salts. Finally make up to 1000.00 ml.

| Wolin's vitamin solution (10x) (from medium 120) |  
| Biotin | 20.00  mg  
| Folic acid | 20.00  mg  
| Pyridoxine hydrochloride | 100.00  mg  
| Thiamine HCl | 50.00  mg  
| Riboflavin | 50.00  mg  
| Nicotinic acid | 50.00  mg  
| Calcium D-(+)-pantothenate | 50.00  mg  
| Vitamin B₁₂ | 1.00  mg  

© 2023 DSMZ - All rights reserved
### Microorganisms

383b: DESULFONAUTICUS MEDIUM

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Aminobenzoic acid</td>
<td>50.00</td>
<td>mg</td>
</tr>
<tr>
<td>(DL)-alpha-Lipoic acid</td>
<td>50.00</td>
<td>mg</td>
</tr>
<tr>
<td>Distilled water</td>
<td>1000.00</td>
<td>ml</td>
</tr>
</tbody>
</table>

© 2023 DSMZ - All rights reserved