

## ATCC Medium 2131: OMIZ Spirochete Medium

L-Alanine .....	45.0 mg	L-Phenylalanine .....	165.0 mg	D-Maltose .....	2000.0 mg
L-Arginine .....	174.0 mg	L-Proline .....	115.0 mg	D-Mannose .....	2000.0 mg
L-Asparagine .....	150.0 mg	L-Serine .....	525.0 mg	D-Ribose .....	2000.0 mg
L-Aspartic Ac .....	133.0 mg	L-Threonine .....	119.0 mg	D-Xylose .....	2000.0 mg
L-Cysteine HCl .....	352.0 mg	L-Tryptophan .....	102.0 mg	L-Fucose .....	2000.0 mg
L-Glutamic Ac .....	294.0 mg	L-Tyrosine .....	90.0 mg	Na-Citrate.....	200.0 mg
L-Glutamine .....	680.0 mg	L-Valine .....	117.0 mg	N-	500.0 mg
				acetylglucosamine	
Glycine .....	75.0 mg	KCl .....	968.0 mg	Na-Pyruvate .....	550.0 mg
L-Histidine .....	620.0 mg	MgCl <sub>2</sub> x 6H <sub>2</sub> O .....	203.3 mg	Na-Fumarate .....	500.0 mg
L-Isoleucine .....	131.0 mg	NaH <sub>2</sub> PO <sub>4</sub> x H <sub>2</sub> O .....	140.0 mg	Adenine .....	1.40 mg
L-Leucine .....	131.0 mg	NH <sub>4</sub> Cl .....	1600.0 mg	D-Arabinose .....	2000.0 mg
L-Lysine .....	182.0 mg	D-Galacturonic Ac ...	2000.0 mg	D-Glucose .....	2000.0 mg
L-Methionine .....	149.0 mg	Hypoxanthine .....	1.40 mg	Uracil .....	1.10 mg
L-Ornithine HCl .....	168.0 mg	Thymidine .....	2.40 mg	ACES .....	1822.0 mg
D-L-Carnatine .....	200.0 mg	Putresine .....	5.00 mg	Spermidine .....	5.00 mg
*Phenol Red .....	10.0 mg	Lactic Ac (30%) .....	1.40 mL	Iso-Butyric Ac	10.0 µL
				.....	
2-Methylbutyric Ac ....	10.0 µL	Valeric Acid .....	10.0 µL	Iso-Valeric Ac ...	10.0 µL
CaCl <sub>2</sub> Stock .....	1.0 mL	Cu-Mn-Zn Stock .....	1.0 mL	Se Stock .....	1.0 mL
Ni-Sn-V-Mo Stock .....	1.0 mL	Vitamin Solution .....	1.0 mL	Hemin Solution	1.0 mL
				.....	
Lipoic Acid Soln.....	1.0 mL				

\*Dissolve Phenol Red in a few drops of dilute NaOH. Then add to flask.

*Add the above ingredients to 500 mL of distilled water in a 1L volumetric flask.  
Adjust pH to 6.0.*

Prior to use, add the following solutions and bring the volume to 1.0 L with distilled water, adjust pH to **6.9**, and filter sterilize.

Bicarbonate Sol .....	1.0 mL	Human Serum .....	10.0 mL	Cholesterol Sol.....	1.0 mL
DHNA Sol .....	1.0 mL	Vitamin C Sol .....	1.0 mL	Glutathione Sol.....	1.0 mL
Yeast Extract Sol .....	20.0 mL	Ferrous Sulphate Sol ...	1.0 mL	Neopeptone Sol.....	10.0 mL

## Stocks and Solutions

### CaCl<sub>2</sub> Stock

CaCl <sub>2</sub> x H <sub>2</sub> O.....	14.7 g
10 mM HCl .....	100.0 mL

### Cu-Mn-Zn Stock

CuSO <sub>4</sub> .....	0.798 mg
MnSO <sub>4</sub> x H <sub>2</sub> O ...	0.169 mg
ZnSO <sub>4</sub> x 7H <sub>2</sub> O..	0.287 g
10mM HCl.....	1000.0 mL

### Selenium Stock

NaSeO <sub>3</sub> .....	17.3 mg
DI Water .....	1000.0 mL

### Ni-Sn-V-Mo Stock

NiSO <sub>4</sub> x 6H <sub>2</sub> O.....	0.131 mg
SnCl <sub>2</sub> x 2H <sub>2</sub> O.....	0.118 mg
NaVO <sub>3</sub>	0.61 mg
(NH <sub>4</sub> ) <sub>6</sub> Mo <sub>7</sub> O <sub>24</sub> x 4H <sub>2</sub> O...	12.4 mg
10 mM HCl.....	1000.0 mL

### Bicarbonate Sol

NaHCO <sub>4</sub> .....	10.0 g
DI Water.....	100. mL

### Ferrous Sulphate Sol

FeSO <sub>4</sub> x 7H <sub>2</sub> O...	278.0 mg
10 mM HCl.....	100.0 mL

### Glutathione, reduced Sol

Glutathione, reduced.....	30.7 g
DI Wat.(neut w/NaOH).....	150.0 mL

### Hemin Solution

Hemin.....	12.5 mg
DI Water.....	100.0 mL

### Vitamin C Solution

Vitamin C .....	10.0 g
DI Wat.(Neut w/NaOH).	70.0 mL

### DHNA Solution

1,4-dihydroxy-2-naphthoic acid	40.8 mg
Ethanol.....	100.0 mL

### Yeast Extract Solution

Gibco YE Sol (15% autolyzed yeast)	
Gibco #18180-059.....	15.0 g
DI Water.....	100.0 mL

### Cholesterol Solution

Cholesterol.....	20.0 mg
Ethanol.....	20.0 mL

### Neopeptone Solution

Bacto-Neopeptone...	10.0 g
DI Water	100.0 mL
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### Lipoic Acid Soln

DLalpha-Lipoic Ac.....	10.0 mg
2-Mercaptoethanol .....	1.0 mL
Ethanol.....	9.0 mL

### Vitamin Solution

Calcium D-Pantothenate.....	500.0 mg
Thiamine-2HCl.....	500.0 mg
Pyridoxal phosphate.....	500.0 mg
Folinic Acid.....	100.0 mg
Riboflavin.....	1.0 mg
Coenzyme A, Na.....	100.0 mg
2-Mercaptoethanesulfonic Ac..	1000.0 mg

Choline Chloride.....	5000.0 mg
Thiamine pyrophosphate...	250.0 mg
D(+)-Biotin.....	5.0 mg
Nicotinamide.....	5.0 mg
Vitamin B12.....	5.0 mg
myo-Inositol.....	5000.0 mg
DI Water.....	100.0 mL

Pyridoxal-HCl.....	500.0 mg
Folic Acid.....	5.0 mg
Nicotinic Acid.....	100.0 mg
β-NAD.....	100.0 mg
FAD.....	100.0 mg