

ATCC Medium 1653: Revised Magnetic spirillum growth Medium (MSGM)

Wolfe's Vitamin Solution (see below)	10.0 mL
Wolfe's Mineral Solution (see below)	5.0 mL
0.1M Ferric Quinate (see below)	2.0 mL
0.1% Resazurin	0.45 mL
KH ₂ PO ₄	0.68 g
NaNO ₃	0.12 g
Ascorbic acid	0.035 g
Tartaric acid	0.37 g
Succinic acid	0.37 g
Sodium acetate	0.05 g
Agar (for semi-solid media)	1.3 g
Distilled water	1000.0 mL

Add components in the order given with stirring.

Adjust to pH 6.75 with NaOH.

Liquid Medium:

Autoclave at 121 C for 15 minutes.

Aseptically fill screw-cap containers to full capacity with sterile medium.

Inoculate heavily leaving no headspace of air.

Tightly screw down closures.

Semi-solid Medium:

Dispense 12mL per 16 x 125 mm screw cap tube.

Autoclave at 121 C for 15 minutes.

0.01M Ferric Quinate:

FeCl ₃	0.27 g
Quinic Acid (Sigma)	0.19 g
Distilled water	100.0 mL

Dissolve and autoclave at 121 C for 15 minutes.

Wolfe's Vitamin Solution

Available from ATCC as a sterile ready-to-use liquid (Vitamin Supplement, catalog no. MD-VS).

Biotin.....	2.0 mg
Folic acid.....	2.0 mg
Pyridoxine hydrochloride.....	10.0 mg
Thiamine . HCl.....	5.0 mg
Riboflavin.....	5.0 mg

Nicotinic acid.....	5.0 mg
Calcium D-(+)-pantothenate.....	5.0 mg
Vitamin B12.....	0.1 mg
p-Aminobenzoic acid.....	5.0 mg
Thioctic acid.....	5.0 mg
DI Water.....	1000.0 mL

Wolfe's Mineral Solution

Available from ATCC as a sterile ready-to-use liquid (Trace Mineral Supplement, catalog no. MD-TMS.)

Nitrilotriacetic acid.....	1.5 g
MgSO ₄ x 7H ₂ O.....	3.0 g
MnSO ₄ x H ₂ O.....	0.5 g
NaCl.....	1.0 g
FeSO ₄ x 7H ₂ O.....	0.1 g
CoCl ₂ x 6H ₂ O.....	0.1 g
CaCl ₂	0.1 g
ZnSO ₄ x 7H ₂ O.....	0.1 g
CuSO ₄ x 5H ₂ O.....	0.01 g
AlK(SO) x 12HO.....	0.01 g
H ₃ BO ₃	0.01 g
Na ₂ MoO ₄ x 2H ₂ O.....	0.01 g
DI Water.....	1000.0 mL

Add nitrilotriacetic acid to approximately 500 ml of water and adjust to pH 6.5 with KOH to dissolve the compound. Bring volume to 1.0 L with remaining water and add remaining compounds one at a time.

Note...MG...2/26/2004

There is no need to dispense this under gas. The medium will have a pinkish color from the resazurin, but microaerophilic conditions will set up in the medium (filled to the rim) after inoculation.