

ATCC medium: 1282 Medium for sulfate reducers

Component I:

MgSO₄2.0 g
Sodium citrate.....5.0 g
CaSO₄1.0 g
NH₄Cl1.0 g
Distilled water.....400.0 ml

Component II:

K₂HPO₄0.5 g
Distilled water.....200.0 ml

Component III:

Sodium lactate.....3.5 g
Yeast extract.....1.0 g
Distilled water.....400.0 ml

Adjust the pH of each component to 7.5 and autoclave at 121C for 15 minutes. Mix the three components aseptically and tube under 97% N₂, 3% H₂ while they are still warm to exclude as much oxygen as possible. Before inoculation, aseptically add the following filter-sterilized solutions:

5% Ferrous ammonium sulfate.....20.0 ml
Organic Acid Solution (see below).....10.0 ml
Wolfe's Vitamin Solution (see below)....10.0 ml
Wolfe's Mineral Solution (see below)....10.0 ml

Organic Acid Solution:

Butyric acid.....5.18 ml
Caproic acid.....2.4 ml
Octanoic acid.....1.25 ml
Distilled water to.....50.0 ml

Adjust pH to 7.0 with 5 N NaOH and dilute to 100 ml with distilled water.

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
Distilled water.....1.0 L

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
MgSO₄ . 7H₂O3.0 g
MnSO₄ . H₂O0.5 g
NaCl.....1.0 g
FeSO₄ . 7H₂O0.1 g
CoCl₂ . 6H₂O0.1 g
CaCl₂.....0.1 g
ZnSO₄ . 7H₂O0.1 g
CuSO₄ . 5H₂O0.01 g
AlK(SO₄)₂ . 12H₂O.....0.01 g
H₃BO₃0.01 g
Na₂MoO₄ . 2H₂O.....0.01 g
Distilled water.....1.0 L

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.