

380. MAGNETOSPIRILLUM MEDIUM

Vitamin solution (see medium 141)	10.00	ml
Trace elements (see medium 141)	5.00	ml
Fe(III) quinate solution (see below)	2.00	ml
Resazurin	0.50	mg
KH ₂ PO ₄	0.68	g
NaNO ₃	0.12	g
Na-thioglycolate	0.05	g
L(+)-Tartaric acid	0.37	g
Succinic acid	0.37	g
Na-acetate	0.05	g
Agar (for semi-solid agar)	1.30	g
Distilled water	1000.00	ml

Dissolve ingredients (except thioglycolate) in the order given, adjust pH to 6.75 with NaOH and boil medium for 1 min.

Ferric Quinate Solution, 0.01 M :

FeCl ₃ x 6 H ₂ O	0.45	g
Quinic acid	0.19	g
Distilled water	100.00	ml

Dissolve and autoclave at 121°C for 15 min.

Liquid medium: Purge medium with N₂ gas for 10 min and dispense under the same gas atmosphere in anoxic vials to 1/3 of their volume. Seal vials with screw caps and gas tight rubber closures. Autoclave at 121°C for 15 min. Before inoculation add thioglycolate from a 3% (w/v) solution, freshly prepared under N₂ and filter-sterilized. Then add sterile air (with hypodermic syringe through the rubber closure) to 1% O₂ concentration in the gas phase.

Semi solid medium: Purge medium with N₂ gas for 10 min. and dispense under same gas atmosphere 10 ml of agar containing medium per 16 x 150 mm anoxic screw cap tube. After autoclaving, tubes may be stored at room temperature. Prior to inoculation add thioglycolate from a 3% (w/v) solution, freshly prepared under N₂ and filter-sterilized. Then add sterile air (with hypodermic syringe through the rubber closure) to a concentration of 1% (v/v) in the vial and let equilibrate medium overnight in order to establish a redox gradient.

Prior to inoculation media should be slightly pink in color. Strongly reduced conditions will not support growth of the organism. Incubate tubes with semi-solid medium without agitation in an upright position. During growth O₂ will be consumed, resazurin decolorized and the pH increase. Feed oxygen (by adding air) and succinic acid from sterile 0.05 M solution (to maintain pH below 7). If higher densities of magnetic cell are wanted, ferric quinate also has to be fed. For transfer use cell material which has been concentrated at the glass wall of the culture vessel by means of a magnetic rod attached outside.

Continued on next page

For DSM 6361 increase the amount of added O₂ to a concentration of 10% (v/v) in the vial.