# *Magnetospirillum magneticum*

**700264™**

## Description

*Magnetospirillum magneticum* strain AMB-1 is a whole-genome sequenced bacterium isolated from a water pond in Tokyo, Japan. When this strain is grown under microaerophilic conditions, the cells are magnetotactic. They have magnetite inclusions, which cause the cells to turn in a magnetic field.

**Strain designation:** AMB-1
**Deposited As:** *Magnetospirillum* sp.
**Type strain:** No

## Storage Conditions

**Product format:** Frozen
**Storage conditions:** -80°C or colder

## Intended Use

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

## BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies

and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

## Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

## Growth Conditions

**Medium:**
ATCC Medium 1653: Revised magnetic Spirillum growth medium (MSGM)
ATCC Medium 260: Trypticase soy agar/broth with defibrinated sheep blood
**Temperature:** 30°C
**Atmosphere:** Microaerophilic

## Handling Procedures

1. Keep vial frozen until ready to use, then thaw. Thaw contents of the vial in a

37°C water bath with gentle agitation.
2. Inoculate a single tube of #1653 broth with the entire contents of the thawed vial. Be sure the entire tube is filled with medium to achieve microaerophilic conditions.
3. Incubate at 30°C for 4-10 days.
4. When broth becomes cloudy and a small gray sediment is visible at the bottom of the tube, cells can be harvested. Divide contents of the tube into two tubes and spin in a tabletop centrifuge.
5. Discard the supernatant liquid. Do not bubble or shake cells. Resuspend cells in a 125 mL flask or 100 mL bottle.
6. Incubate as directed above.

## Notes

For best results, use fresh media and microaerophilic conditions. Test for magnetism by subjecting flasks to magnetic stirring plate. The cells will swirl.

For storage, centrifuge cells for 30 minutes at 7,000 rpm. Discard the supernatant liquid. Resuspend cells in approximately 6 ml of fresh broth. Add an equal amount of sterile 20% glycerol. Freeze at as low a temperature as available.

When this strain is grown under microaerophilic conditions, the cells are magnetotactic. They have magnetite inclusions, which cause the cells to turn in a magnetic field. This can be observed in a wet mount from a broth culture. The strain will grow aerobically but will not be magnetic.

Purified genomic DNA of this strain is available (ATCC 700264D-5).

Additional information on this culture is available on the ATCC® web site at www.atcc.org.

## Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Magnetospirillum magneticum* (ATCC 700264)

## References

References and other information relating to this material are available at www.atcc.org.

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