



Geobacter sulfurreducens

Caccavo et al.

51573TM

Description

Geobacter sulfurreducens strain PCA was isolated from surface sediments in Norman, Oklahoma. This whole-genome sequenced bacterial type strain can be used in biotechnology.

Strain designation: PCA

Deposited As: *Geobacter sulfurreducens* Caccavo et al.

Type strain: Yes

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

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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 1957: Geobacter medium

Temperature: 26-30°C

Atmosphere: 80% N₂, 20% CO₂

Handling Procedures

1. Keep vial frozen until ready to use.
2. To reduce media before inoculation, use 5% coenzyme M (0.1 mL per 10 mL), 1 M Fumarate (0.2 mL per 10 mL of broth and 0.2 mL per plate) needs to be added before inoculation. If needed, exchange the gas in the test tube for 80%



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N₂-20% CO₂ or 80% N₂-10% CO₂-10% H₂.

3. Under anaerobic conditions, thaw vial and then quickly transfer into a single tube of #1957 broth. A second tube of #1957 broth can also be inoculated with 0.5 mL from the original broth.
4. Incubate at 26°C to 30°C for 5 to 6 days. Subsequent transfers will grow faster following the initial recovery period.
5. Growth is evident by turbidity and an accumulation of cells at the bottom of the broth that are an orange/pink coloration.

ANAEROBIC CONDITIONS:

Anaerobic conditions for transfer may be obtained by either of the following:

- Use of an anaerobic gas chamber, or
- Placement of test tubes under a gassing cannula system hooked to anaerobic gas.

Anaerobic conditions for incubation may be obtained by any of the following:

- Loose screw caps on test tubes in anaerobic chamber,
- Loose screw caps on test tubes in an activated anaerobic gas pack jar, or
- Use of sterile butyl rubber stoppers on test tubes so that an anaerobic gas headspace is retained.

Notes

This culture grows well in broth if Hungate tubes are used. For larger volumes, use serum bottles. Incubation of up to 20 days may be required for growth on agar. Add 0.2 mL of 1M Fumarate to each plate prior to inoculation. No growth should occur on nonselective media.

We strongly suggest obtaining reference Caccavo *et al.* Appl. Environ. Microbiol. 60: 3752-3759 (1994) for further information.

Purified genomic DNA of this strain is available as ATCC® 51573D-5™.

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

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Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Geobacter sulfurreducens* Caccavo et al. (ATCC 51573)

References

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

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