

CULTURE PROFILE

Clostridium acetireducens

First described 1996 · Biosafety risk group 1 · NCBI TaxID 76489 · 34 evidence sentences · 10 sources

cellular organisms; Bacteria; Bacillati; Bacillota; Clostridia; Eubacteriales; Clostridiaceae; Clostridium

UNREVIEWED — not verified by a microbiologist

At a glance

1	Media used	Thioglycollate broth	low
2	Optimum temperature for growth	5–50 °C	moderate
3	Time required to grow	5-7 d	low
4	Colony morphology	No evidence retrieved	none
5	Gram character	Gram-positive (rod)	moderate
6	Biochemical tests for identification	16S rRNA gene sequencing; MALDI-TOF MS; Motility — reported positive; Beta-glucuronidase (MUG); +1 more	low

1 Media used

low confidence

• Thioglycollate broth

Low · score 0.65 · 1 source

"Generation time for strain 8797 was 1.5 times greater than previously reported for growth in purged fluid thioglycolate medium."
Chemically Defined Medium for the Growth of Clostridium perfringens — Crossref, 1971

2 Optimum temperature for growth

moderate confidence

5–50 °C

Moderate · score 8.68 · 3 sources

"Temperature, pH, and NaCl concentration ranges (5-50 °C, pH 4.5-9.5, 0-100 g NaCl L⁻¹, correspondingly) for strain growth were defined using the basal nutrient medium supplemented with 22 mM lactate or D-glucose."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

"The strain is also psychrotolerant, growing from 8 °C to 32 °C with optimum growth at temperatures between 18 and 20 °C."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

"Fusibacter bizertensis WBS grew at temperatures between 8 and 32 °C (optimum growth at 18-20 °C), pH between 5.2 and 8.3 (optimum growth at pH 7.2), and at NaCl concentrations between 0 and 70 g L⁻¹ (optimum growth at 32 g L⁻¹)."

Aerotolerant Thiosulfate-Reducing Bacterium *Fusibacter* sp. Strain WBS Isolated fro... — Europe PMC, 2023

18–20 °C

Moderate · score 6.46 · 3 sources

"Fusibacter bizertensis WBS grew at temperatures between 8 and 32 °C (optimum growth at 18-20 °C), pH between 5.2 and 8.3 (optimum growth at pH 7.2), and at NaCl concentrations between 0 and 70 g L⁻¹ (optimum growth at 32 g L⁻¹)."

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Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — OpenAlex, 2023

"The strain is also psychrotolerant, growing from 8 °C to 32 °C with optimum growth at temperatures between 18 and 20 °C."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

Sources disagree: "5–50 °C" (score 8.68) versus "18–20 °C" (score 6.46). Both are shown; a reviewer should decide.

3 Time required to grow

low confidence

5-7 d

Low · score 3.33 · 1 source

"Several black colonies that appeared were picked separately in sterile conditions; they were about 2 mm in diameter after 5-7 days of incubation."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

"The colonies seen in the roll tubes were round, about 2 mm in diameter, and of black color after 5-7 days of incubation at 20 °C."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

"Results Strain identification and phylogenetic analyses Isolation of strains Marseille-P2953 and LF2 occurred, respectively, after 7 days' and 30 days' preincubation in anaerobic blood culture bottles supplemented with rumen and sheep's blood, respectively."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

5-20 d

Low · score 2.48 · 1 source

"This procedure was repeated to obtain serial dilutions (from 10⁻¹ to 10⁻¹⁰) and the inoculated Hungate tubes were then incubated at 20 °C for 5-20 days."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

"Results Strain identification and phylogenetic analyses Isolation of strains Marseille-P2953 and LF2 occurred, respectively, after 7 days' and 30 days' preincubation in anaerobic blood culture bottles supplemented with rumen and sheep's blood, respectively."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

"Strain Marseille-P2414 was first isolated after 15 days' preincubation in an aerobic blood culture bottle supplemented with rumen and sheep's blood."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

30 d

Low · score 1.35 · 1 source

"Results Strain identification and phylogenetic analyses Isolation of strains Marseille-P2953 and LF2 occurred, respectively, after 7 days' and 30 days' preincubation in anaerobic blood culture bottles supplemented with rumen and sheep's blood, respectively."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

"Finally, strain MT26 was first isolated after 30 days' preincubation in an anaerobic blood culture bottle supplemented with sheep's blood."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

90 d

Low · score 1.22 · 1 source

"Microcystis scum was anaerobically incubated for 90 days at three temperatures (15 °C, 25 °C and 35 °C)."

Novel Clostridium populations involved in the anaerobic degradation of Microcystis blooms. — Europe PMC, 2011

Sources disagree: "5-7 d" (score 3.33) versus "5-20 d" (score 2.48). Both are shown; a reviewer should decide.

4 Colony morphology

no evidence

No sentence in the retrieved literature supported this field. Nothing is asserted here.

5 Gram character

moderate confidence

Gram-positive (rod)

Moderate · score 7.58 · 3 sources

"Morphological and Physiological Properties of the Strain WBS Cultures of the strain WBS contained slightly motile, Gram-positive staining, long rod-shaped cells."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

"Strain ZF2T, isolated from freshwater sediment, is a motile, rod-shaped, gram-positive, endospore-forming, amino acid- and pyruvate-utilizing, anaerobic bacterium."

Reclassification of Clostridium hydroxybenzoicum as Sedimentibacter hydroxybenzoicus gen.... — OpenAlex, 2002

"The cell wall had a Gram-positive structure, which was revealed by electron microscopy."

Caloramator coolhaasii sp. nov., a glutamate-degrading, moderately thermophilic anaerobe. — OpenAlex, 2000

6 Biochemical tests for identification

low confidence

• 16S rRNA gene sequencing

Low · score 3.5 · 2 sources

"Because the routine identification using MALDI-TOF MS failed, the 16S rRNA gene of each strain was sequenced."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

• MALDI-TOF MS

Low · score 2.57 · 2 sources

"Because the routine identification using MALDI-TOF MS failed, the 16S rRNA gene of each strain was sequenced."

Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clo... — PubMed Central (open access), 2018

• Motility — reported positive

Low · score 2.35 · 3 sources

"Morphological and Physiological Properties of the Strain WBS Cultures of the strain WBS contained slightly motile, Gram-positive staining, long rod-shaped cells."

Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Litto... — PubMed Central (open access), 2023

• Beta-glucuronidase (MUG)

Low · score 0.81 · 1 source

"The beta⁺glucuronidase-encoding gusA gene was successfully established as a reporter system and used to demonstrate the activity of the (inducible) promoters Pfac (IPTG), P_{glaL} (lactose), PackA⁺theo (theophylline), Ptet (anhydrotetracycline) and Ppta-ack."

Biological conversion of CO₂ into the platform chemicals lactate and 3-hydroxypropionate ... — OpenAlex, 2019

• Spore formation / stain — reported positive

Low · score 0.73 · 1 source

"Strain ZF2T, isolated from freshwater sediment, is a motile, rod-shaped, gram-positive, endospore-forming, amino acid- and pyruvate-utilizing, anaerobic bacterium."

Reclassification of Clostridium hydroxybenzoicum as Sedimentibacter hydroxybenzoicus gen.... — OpenAlex, 2002

7 References

1. Clostridium acetireducens 2026
wikipedia:55868277 · via Wikipedia · supported: Gram character, Biochemical tests for identification
2. Aerotolerant Thiosulfate-Reducing Bacterium Fusibacter sp. Strain WBS Isolated from Littoral Bottom Sediments of the White Sea-Biochemical and Genome Analysis 2023
PMC10386464 · via PubMed Central (open access) · supported: Time required to grow, Biochemical tests for identification, Optimum temperature for growth, Gram character
3. Aerotolerant Thiosulfate-Reducing Bacterium *Fusibacter* sp. Strain WBS Isolated from Littoral Bottom Sediment: the White Sea-Biochemical and Genome Analysis. 2023
MED:37512815 doi:10.3390/microorganisms11071642 · via Europe PMC · supported: Optimum temperature for growth
4. Biological conversion of CO₂ into the platform chemicals lactate and 3-hydroxypropionate using recombinant strains of *Acetobacterium woodii* 2019
https://openalex.org/W3016092867 · via OpenAlex · supported: Biochemical tests for identification
5. Taxonogenomic description of four new Clostridium species isolated from human gut: 'Clostridium amazonitimonense', 'Clostridium merdae', 'Clostridium massiliidmoense' and 'Clostridium nigeriense' 2018
PMC5767839 · via PubMed Central (open access) · supported: Time required to grow, Biochemical tests for identification
6. Taxonogenomic description of four new *Clostridium* species isolated from human gut: '*Clostridium amazonitimonense*', '*Clostridium merdae*', '*Clostridium massiliidmoense*' and '*Clostridium nigeriense*'. 2018
MED:29348922 doi:10.1016/j.nmni.2017.11.003 · via Europe PMC · supported: Biochemical tests for identification
7. Novel Clostridium populations involved in the anaerobic degradation of Microcystis blooms. 2011
MED:21107445 doi:10.1038/ismej.2010.176 · via Europe PMC · supported: Time required to grow
8. Reclassification of Clostridium hydroxybenzoicum as Sedimentibacter hydroxybenzoicus gen. nov., comb. nov., and description of Sedimentibacter saalensis sp. nov.. 2002
https://openalex.org/W2158004893 · via OpenAlex · supported: Gram character, Biochemical tests for identification
9. Caloramator coolhaasii sp. nov., a glutamate-degrading, moderately thermophilic anaerobe. 2000
https://openalex.org/W2122014918 · via OpenAlex · supported: Gram character, Time required to grow
10. Chemically Defined Medium for the Growth of Clostridium perfringens 1971
doi:10.1128/am.22.4.738-739.1971 · via Crossref · supported: Media used

How these values were derived

Each candidate value was scored as the sum, over every supporting sentence, of the source tier weight multiplied by how squarely the sentence asserts the value and by a recency factor. Culture collections and nomenclatural authorities carry weight 5.0, peer-reviewed literature 3.0, preprints 1.5, and encyclopedic sources 1.0. Confidence is reported as high only where a curated source and at least two independent sources agree. Where a runner-up scored above 60 per cent of the leader, both are shown and the field is flagged as a conflict rather than resolved automatically.

This report aggregates published evidence; it does not replace Bergey's Manual, the Manual of Clinical Microbiology, or the product sheet supplied with the strain. Every field is unreviewed until a microbiologist signs it off.