

CULTURE PROFILE

Clostridium fimetarium

First described 1997 · Biosafety risk group 1 · NCBI TaxID 99656 · 52 evidence sentences · 18 sources

cellular organisms; Bacteria; Bacillati; Bacillota; Clostridia; Lachnospirales; Lachnospiraceae; Lachnoclostridium

UNREVIEWED — not verified by a microbiologist

At a glance

1	Media used	Thioglycollate broth; Blood agar	low
2	Optimum temperature for growth	35–37 °C	moderate
3	Time required to grow	2 h	low
4	Colony morphology	The PelA recombinant colonies were cultured and induced for expression for approximately 96 h in <i>Pichia pastoris</i> , as described by Mattanovich et al. [30].	low
5	Gram character	Gram-negative (rod, curved rod)	moderate
6	Biochemical tests for identification	16S rRNA gene sequencing; Catalase — reported negative; Hydrogen sulfide (H ₂ S) — reported positive; Short-chain fatty acid profile (GLC); +2 more	moderate

1 Media used

low confidence

• Thioglycollate broth

Low · score 1.94 · 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

• Blood agar

Low · score 0.81 · 1 source

"For this reason and due to the growing number of disorders associated with microbiota unbalance (dysbiosis or dysbacteriosis), the interest of several research groups has converged to the GI microbiota and its associations with human health."
Roles of Commensal Microbiota in Pancreas Homeostasis and Pancreatic Pathologies — PubMed Central (open access), 2015

2 Optimum temperature for growth

moderate confidence

35–37 °C

Moderate · score 6.97 · 3 sources

"The optimum temperature for growth was 35-37 °C and the optimum pH was 6.7."
Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — PubMed (NCBI E-utilities), 2016

"The optimum temperature for growth was 35-37 °C and the optimum pH was 6.7."
Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — PubMed (NCBI E-utilities), 2016

"The optimum temperature for growth was 35-37 °C and the optimum pH was 6.7."
Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — Europe PMC, 2016

40 °C

Low · score 1.4 · 1 source

Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus bore...* — PubMed Central (open access), 2025

Low · score 1.4 · 1 source

Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus bore...* — PubMed Central (open access), 2025

Low · score 1.4 · 1 source

Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus bore...* — PubMed Central (open access), 2025

low confidence

Low · score 1.5 · 1 source

Isolation and characterization of anaerobic microbes from marine environments in Korea — OpenAlex, 2016

Low · score 1.4 · 1 source

Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus bore...* — PubMed Central (open access), 2025

Low · score 0.78 · 1 source

Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus bore...* — PubMed Central (open access), 2025

Low · score 0.78 · 1 source

Comparative time-series analyses of gut microbiome profiles in genetically and chemically... — PubMed Central (open access), 2024

low confidence

Low · score 1.09 · 1 source

Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus bore...* — PubMed Central (open access), 2025

5 Gram character

moderate confidence

Gram-negative (rod, curved rod)

Moderate · score 6.9 · 5 sources

"Cells of the strain were Gram-stain-negative curved rods with a polar flagellum."

Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — PubMed (NCBI E-utilities), 2016

"Cells of the strain were Gram-stain-negative curved rods with a polar flagellum."

Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — PubMed (NCBI E-utilities), 2016

"The deranged function of the gut mucosal barrier and the presence of enteric Gram-negative bacteria in the pancreas suggest the participation of microbiota in the development of pancreatitis."

Roles of Commensal Microbiota in Pancreas Homeostasis and Pancreatic Pathologies — PubMed Central (open access), 2015

Gram-positive (rod)

Moderate · score 6.13 · 2 sources

"A new psychroactive saccharolytic anaerobic organism was isolated from cattle manure digested at 6 degrees C. The organism is a Gram-positive oligosporous motile rod measuring 0.5-0.6 by 2.1-5.0 microns."

[A new psychroactive bacterium, Clostridium fimentarium, isolated from cattle manure ferm... — PubMed (NCBI E-utilities), 1995

"This study isolated from river sediment two FRB, a Gram-negative strain (Geobacacter sp. LAR-2, GenBank no. KC211015) and a Gram-positive strain (Clostridium sp. LAR-3, GenBank no. KC211016), and individually started up MFC using these two isolates as inocula at anodic compartment."

Startup of Microbial Fuel Cells with Pure Ferric Iron-reducing Bacteria Isolates — OpenAlex, 2016

"Inferred from NCBI Taxonomy lineage: cellular organisms; Bacteria; Bacillati; Bacillota; Clostridia; Lachnospirales; Lachnospiraceae; Lachnoclostridium"

NCBI Taxonomy lineage — NCBI Taxonomy, 2026

Sources disagree: "Gram-negative (rod, curved rod)" (score 6.9) versus "Gram-positive (rod)" (score 6.13). Both are shown; a reviewer should decide.

6 Biochemical tests for identification

moderate confidence

16S rRNA gene sequencing

Moderate · score 5.68 · 4 sources

"PCR amplification and sequencing of bacterial 16S rRNA genes (rDNA) with universally conserved primers have identified over 524 unique bacterial sequences affiliated with 12 bacterial divisions."

Partitioning of Bacterial Communities between Seawater and Healthy, Black Band Diseased, ... — PubMed Central (open access), 2002

Catalase — reported negative

Low · score 3.16 · 4 sources

"Oxidase, catalase and nitrate-reducing activities were negative."

Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — PubMed (NCBI E-utilities), 2016

Hydrogen sulfide (H₂S) — reported positive

Low · score 2.43 · 3 sources

"Hydrogen sulfide was produced."

Falcatimonas natans gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bac... — PubMed (NCBI E-utilities), 2016

Short-chain fatty acid profile (GLC)

Low · score 1.8 · 1 source

"The increased abundance of butyrate-producing bacteria (Clostridium fimetarium , Clostridium hylemona , and Sutterella wadsworthensis) was correlated with an increase of the short-chain fatty acid, butyric acid after exposure to graphene."

Impact of Pristine Graphene on Intestinal Microbiota Assessed Using a Bioreactor-Rotary C... — Europe PMC, 2019

Pigment production — reported positive

Low · score 0.73 · 1 source

"Exotic enzymes, cold-shock proteins and pigments produced by some of the extremophiles from polar environments have the potential to be of great benefit to Mankind."

Psychrophilic and Psychrotolerant Microbial Extremophiles in Polar Environments — OpenAlex, 2009

Motility — reported positive

Low · score 0.65 · 1 source

"A new psychroactive saccharolytic anaerobic organism was isolated from cattle manure digested at 6 degrees C. The organism is a Gram-positive oligosporous motile rod measuring 0.5-0.6 by 2.1-5.0 microns."
[A new psychroactive bacterium, *Clostridium fimentarium*, isolated from cattle manure ferm... — PubMed (NCBI E-utilities), 1995]

7 References

1. Molecular Characterization of a Novel Alkaline Endo-Pectate Lyase from *Paenibacillus borealis* and Over-Production in Bioreactor Realized by Constructing the Tandem Expression Cassettes in Host Genome **2025**
PMC12430865 · via PubMed Central (open access) · supported: Time required to grow, Colony morphology, Optimum temperature for growth
2. Comparative time-series analyses of gut microbiome profiles in genetically and chemically induced lupus-prone mice at the impacts of fecal transplantation **2024**
PMC11530527 · via PubMed Central (open access) · supported: Time required to grow
3. Genomic potential and physiological characteristics of C1 metabolism in novel acetogenic bacteria **2023**
<https://openalex.org/W4387773887> · via OpenAlex · supported: Time required to grow
4. Characterization of cervical canal and vaginal bacteria in pregnant women with cervical incompetence **2022**
c4f08d864e49434f91bafd3abbb6d8a6 · via DOAJ · supported: Biochemical tests for identification
5. Impact of Pristine Graphene on Intestinal Microbiota Assessed Using a Bioreactor-Rotary Cell Culture System. **2019**
MED:31260263 doi:10.1021/acsami.9b07635 · via Europe PMC · supported: Time required to grow, Biochemical tests for identification
6. *Falcatimonas natans* gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bacterium isolated from a methanogenic reactor of cattle waste. **2016**
PMID:27506535 · via PubMed (NCBI E-utilities) · supported: Gram character, Optimum temperature for growth, Biochemical tests for identification
7. *Falcatimonas natans* gen. nov., sp. nov., a strictly anaerobic, amino-acid-decomposing bacterium isolated from a methanogenic reactor of cattle waste. **2016**
MED:27506535 doi:10.1099/ijsem.0.001403 · via Europe PMC · supported: Gram character, Optimum temperature for growth, Biochemical tests for identification
8. Isolation and characterization of anaerobic microbes from marine environments in Korea **2016**
<https://openalex.org/W2501951381> · via OpenAlex · supported: Time required to grow, Biochemical tests for identification
9. Startup of Microbial Fuel Cells with Pure Ferric Iron-reducing Bacteria Isolates **2016**
<https://openalex.org/W3091826724> · via OpenAlex · supported: Gram character
10. Roles of Commensal Microbiota in Pancreas Homeostasis and Pancreatic Pathologies **2015**
PMC4544440 · via PubMed Central (open access) · supported: Media used, Gram character
11. Anaerobic psychrophiles from Lake Zub and Lake Untersee, Antarctica **2009**
<https://openalex.org/W1990691253> · via OpenAlex · supported: Biochemical tests for identification, Optimum temperature for growth
12. Psychrophilic and Psychrotolerant Microbial Extremophiles in Polar Environments **2009**
<https://openalex.org/W181884455> · via OpenAlex · supported: Biochemical tests for identification
13. Microbial community analysis in sludge of anaerobic wastewater treatment systems : integrated culture-dependent and culture-independent approaches **2007**
<https://openalex.org/W2153442936> · via OpenAlex · supported: Biochemical tests for identification
14. Partitioning of Bacterial Communities between Seawater and Healthy, Black Band Diseased, and Dead Coral Surfaces **2002**
PMC127591 · via PubMed Central (open access) · supported: Biochemical tests for identification
15. Partitioning of bacterial communities between seawater and healthy, black band diseased, and dead coral surfaces. **2002**
MED:11976091 doi:10.1128/aem.68.5.2214-2228.2002 · via Europe PMC · supported: Biochemical tests for identification
16. [A new psychroactive bacterium, *Clostridium fimentarium*, isolated from cattle manure fermented at a low temperature]. **1995**
PMID:8643039 · via PubMed (NCBI E-utilities) · supported: Gram character, Biochemical tests for identification
17. Chemically Defined Medium for Growth and Sporulation of *Clostridium perfringens* **1972**
doi:10.1128/am.24.5.755-759.1972 · via Crossref · supported: Media used
18. 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.