Clostridium clostridioforme, Strain 2_1_49FAA

Catalog No. HM-306

For research use only. Not for use in humans.

Contributor:

Emma Allen-Vercoe, Assistant Professor, Department of Molecular and Cellular Biology, University of Guelph, Guelph, Ontario, Canada

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Clostridiaceae*, *Clostridium*
Species: *Clostridium clostridioforme* (also referred to as *Enterocloster clostridioformis*)[1]
Strain: 2_1_49FAA
Original Source: *Clostridium clostridioforme (C. clostridioforme)*, strain 2_1_49FAA was isolated from an inflamed cecum biopsy specimen taken from a 28-year-old male patient with ulcerative colitis.[2,3]
Comments: *C. clostridioforme*, strain 2_1_49FAA (HMP ID 9467) is a reference genome for The Human Microbiome Project (HMP). HMP is an initiative to identify and characterize human microbial flora. The complete genome of *C. clostridioforme* 2_1_49FAA was sequenced at the Broad Institute (GenBank: ADLL00000000).
Note: HMP material is taxonomically classified by the depositor. Quality control of these materials is only performed to demonstrate that the material distributed by BEI Resources is identical to the deposited material.

C. clostridioforme is an obligately anaerobic, football-shaped bacillus usually found in the lower gastrointestinal tract of humans and animals.[4] It differs from most *Clostridium* species in that it typically stains Gram negative and spores are difficult to find. *C. clostridioforme* was known previously as a complex, consisting of a group of *Clostridium* species including *C. hathewayi*, *C. bolteae* and *C. clostridioforme*.[5] Reclassification of *C. clostridioforme* to the novel genus *Enterocloster* has been validly published following a comprehensive phylogenomic and phenotypic analysis of the genus *Clostridium*, and is currently under debate.[1] *C. clostridioforme* displays high antibiotic resistance and is capable of causing severe, invasive infections.[6,7]

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 15% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

HM-306 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Media:
Modified Reinforced Clostridial medium or Modified Chopped Meat medium
Tryptic Soy agar with 5% defibrinated sheep blood or equivalent
Incubation:
Temperature: 37°C
Atmosphere: Anaerobic
Propagation:
1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 1 to 2 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH as part of the Human Microbiome Project: *Clostridium clostridioforme*, Strain 2_1_49FAA, HM-306."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories (BMBL). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their

© 2012/2017/2023 American Type Culture Collection (ATCC). All rights reserved.

suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Haas, K. N., and J. L. Blanchard. "Reclassification of the *Clostridium clostridioforme* and *Clostridium sphenoides* Clades as *Enterocloster* gen. nov. and *Lacrimispora* gen. nov., Including Reclassification of 15 Taxa." Int. J. Syst. Evol. Microbiol. 70 (2020): 23-34. PubMed: 31782700.
2. Allen-Vercoe, E., Personal Communication.
3. HMP ID 9467 (*C. clostridioforme*, strain 2_1_49FAA)
4. Kaneuchi, C., et al. "Taxonomic Study of *Bacteroides clostridiiformis* subsp. *clostridiiformis* (Burri and Ankersmit) Holdeman and Moore and of Related Organisms: Proposal of *Clostridium clostridiiformis* (Burri and Ankersmit) comb. nov. and *Clostridium symbiosum* (Stevens) comb. nov." Int. J. Syst. Bacteriol. 26 (1976): 195-204.
5. Finegold, S. M., et al. "*Clostridium clostridioforme*: A Mixture of Three Clinically Important Species." Eur. J. Clin. Microbiol. Infect. Dis. 24 (2005): 319-324. PubMed: 15891914.
6. Ogah, K., K. Sethi and V. Karthik. "*Clostridium clostridioforme* Liver Abscess Complicated by Portal Vein Thrombosis in Childhood." J. Med. Microbiol. 61 (2011): 297-299. PubMed: 21940652.
7. Alexander, C. J., et al. "Identification and Antimicrobial Resistance Patterns of Clinical Isolates of *Clostridium clostridioforme*, *Clostridium innocuum*, and *Clostridium ramosum* Compared with Those of Clinical Isolates of *Clostridium perfringens*." J. Clin. Microbiol. 33 (1995): 3209-3215. PubMed: 8586704.
8. Yuli, S., L. Chengxu and M. F. Sydney. "Multiplex PCR for Rapid Differentiation of Three Species in the '*Clostridium clostridioforme* Group.'" FEMS Microbiol. Lett. 244 (2005): 391-395. PubMed: 15766796.

ATCC® is a trademark of the American Type Culture Collection.

© 2012/2017/2023 American Type Culture Collection (ATCC). All rights reserved.