

***Campylobacter jejuni*, Strain INP21**

Catalog No. NR-403

(Derived from ATCC® BAA-530™)

For research only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Campylobacteraceae*,
Campylobacter

Species: *Campylobacter jejuni*

Strain: INP21 (also referred to as RM3148)

Serotype: HS:41

Original Source: *Campylobacter jejuni* (*C. jejuni*), strain

INP21 was originally isolated by Irving Nachamkin and Patricia Arzarte in 1997 from a patient with Guillain-Barré syndrome at the National Institute of Pediatrics in Mexico City, Mexico.^{1,2}

Comment: In 2002, strain INP21 was deposited to the ATCC as Penner serotype HS:41.

C. jejuni is a Gram-negative, slender, curved, motile rod commonly found in animal feces. It is a microaerophilic organism that is very sensitive to environmental stresses.³ *C. jejuni* is among the most frequently identified bacterial causes of human gastroenteritis in the United States and other industrialized countries.⁴ Food poisoning caused by *C. jejuni* can be largely attributed to the consumption of contaminated food animal products, especially poultry. In most cases, the resulting infection can be severely debilitating but is rarely life-threatening. However, in some cases, *C. jejuni* infections have been linked to the subsequent development of two neuropathies, Guillain-Barré syndrome and Miller-Fisher syndrome⁴ and to a reactive arthropathy, Reiter syndrome.^{1,3-6}

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Brucella broth supplemented with 10% glycerol.

Packaging/Storage:

NR-403 was packaged aseptically, in screw-capped plastic 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:

Brucella broth on Tryptic Soy agar with 5% defibrinated sheep blood, or equivalent

Incubation:

Temperature: 37°C to 42°C

Atmosphere: Microaerophilic (3 to 5% O₂ and 4 to 8% CO₂)

Propagation:

1. Keep vial frozen until ready to use, then thaw.
2. Transfer the entire thawed aliquot into Brucella broth.
3. Inoculate a Tryptic Soy agar with 5% defibrinated sheep blood slant with the suspension.
4. Incubate the slant at 37°C to 42°C, under microaerophilic conditions, for 2 days.
5. Harvest the slant with Brucella broth and add to Tryptic Soy agar with 5% defibrinated sheep blood kolle.
6. Incubate an additional day at 37°C to 42°C, under microaerophilic conditions.

Note: The thawed vial may be plated directly on Tryptic Soy agar with 5% defibrinated sheep blood and grown at 37°C to 42°C in a microaerophilic atmosphere. This may require a longer incubation time than the biphasic culture.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Campylobacter jejuni*, Strain INP21, NR-403.”

Biosafety Level: 2

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Engberg, J., et al. "Absence of Clonality of *Campylobacter jejuni* in Serotypes Other Than HS:19 Associated with Guillain-Barré Syndrome and Gastroenteritis." J. Infect. Dis. 184 (2001) 215-220. PubMed: 11400076.
2. Nachamkin, I., et al. "*Campylobacter jejuni* from Patients with Guillain-Barre Syndrome Preferentially Expresses a GD_{1a}-Like Epitope." Infect. Immun. 70 (2002): 5299-5303. PubMed: 12183587.
3. Altekruze, S. F., et al. "*Campylobacter jejuni*-An Emerging Foodborne Pathogen." Emerg. Infect. Dis. 5 (1999): 28-35. PubMed: 10081669.
4. Woodward, D. L. and F. G. Rodgers. "Identification of *Campylobacter* Heat-Stable and Heat-Labile Antigens by Combining the Penner and Lior Serotyping Schemes." J. Clin. Microbiol. 40 (2002): 741-745. PubMed: 11880386.
5. Gibreel, A. and D. E. Taylor. "Macrolide Resistance in *Campylobacter jejuni* and *Campylobacter coli*." J. Antimicrob. Chemother. 58 (2006): 243-255. PubMed: 16735431.
6. Sinha, S., et al. "Detection of Preceding *Campylobacter jejuni* Infection by Polymerase Chain Reaction in Patients with Guillain-Barré Syndrome." Trans. R. Soc. Trop. Med. Hyg. 98 (2004): 342-346. PubMed: 15099989.
7. Parker, C. T., et al. "Comparison of *Campylobacter jejuni* Lipooligosaccharide Biosynthesis Loci from a Variety of Sources." J. Clin. Microbiol. 43 (2005): 2771-2781. PubMed: 15956396.
8. Hunt, J. M., C. Abeyta, and T. Tran. Bacteriological Analytical Manual, 8th Edition, Revision A. U.S. Food and Drug Administration 1998. 26-04-2007 <<http://www.cfsan.fda.gov/~ebam/bam-7.html>>.

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