

***Escherichia coli*, Strain A9619-c2**

Catalog No. NR-17655

For research only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Enterobacteriaceae, Escherichia*

Species: *Escherichia coli*

Strain: A9619-c2 **Note: The label refers to this item as strain A9619-c2 (11c). The (11c) is a lab designation that was used for tracking and is not part of the strain name.**

Serotype: O45:H2^{1,2}

Original Source: *Escherichia coli* (*E. coli*), strain A9619-c2 was isolated in 1983 from a human in the USA.^{1,2}

Comment: The complete genome of *E. coli*, strain A9619-c2 is available (GenBank: [JN859204](https://www.ncbi.nlm.nih.gov/nuccore/JN859204)).

E. coli is a Gram-negative rod-shaped bacterium which occurs singly or in pairs. It is a major facultative inhabitant of the large intestine.

Strain A9619-c2 has been typed as an enteropathogenic *E. coli* (EPEC) strain.^{1,2} EPEC strains cause diarrheal outbreaks and chronic diarrhea, especially in infants. EPEC pathogenesis requires the expression of genes present both on the chromosome and on an adherence factor plasmid, EAF.⁴ The virulence profile of an O45:H2 clone typically has a Shiga toxin gene, an intimin allele, and a hemolysin gene.^{5,6}

Material Provided:

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

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

Packaging/Storage:

NR-17655 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:

Tryptic Soy broth or equivalent

Tryptic Soy agar with 5% defibrinated sheep blood or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic

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 day.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Escherichia coli*, Strain A9619-c2, NR-17655."

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/bmb15/index.htm.

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References:

1. Reid, S. D., D. J. Betting and T. S. Whittam. "Molecular Detection and Identification of Intimin Alleles in Pathogenic *Escherichia coli* by Multiplex PCR." J. Clin. Microbiol. 37 (1999): 2719-2722. PubMed: 10405431.
2. DebRoy, C., Personal Communication.
3. Kapur, V., et al. "Genome Sequencing and Analysis of Pathogenic *Escherichia coli* Strains." J. Craig Venter Institute. (2009) <http://gsc.jcvi.org/projects/gsc/e_coli/index.shtml>
4. Tobe, T., et al. "Complete DNA Sequence and Structural Analysis of the Enteropathogenic *Escherichia coli* Adherence Factor Plasmid." Infect. Immun. 67 (1999): 5455-5462. PubMed: 10496929.
5. Bugarel, M., L. Beutin and P. Fach. "Low-Density Macroarray Targeting Non-Locus of Enterocyte Effacement Effectors (*nle* Genes) and Major Virulence Factors of Shiga Toxin-Producing *Escherichia coli* (STEC): a New Approach for Molecular Risk Assessment of STEC Isolates." Appl. Environ. Microbiol. 76 (2010): 203-211. PubMed: 19880649.
6. Zhao, S., et al. "Identification and Characterization of Integron-Mediated Antibiotic Resistance among Shiga Toxin-Producing *Escherichia coli* Isolates." Appl. Environ. Microbiol. 67 (2001): 1558-1564. PubMed: 11282605.
7. Delannoy, S., L. Beutin and P. Fach. "Use of Clustered Regularly Interspaced Short Palindromic Repeat Sequence Polymorphisms for Specific Detection of Enterohemorrhagic *Escherichia coli* Strains of Serotypes O26:H11, O45:H2, O103:H2, O111:H8, O121:H19, O145:H28, and O157:H7 by Real-Time PCR." J. Clin. Microbiol. 50 (2012): 4035-4040. PubMed: 23035199.

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