

***Enterococcus faecalis*, Strain CH19**

**Catalog No. NR-31990**

**For research use only. Not for human use.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Enterococcaceae*, *Enterococcus*

Species: *Enterococcus faecalis*

Strain: CH19 (also referred to as EnGen0246)

Original Source: *Enterococcus faecalis* (*E. faecalis*), strain CH19 was isolated in July 1987 from a wound culture at The Children's Hospital, Boston, Massachusetts, USA.<sup>1,2</sup>

Comments: *E. faecalis*, strain CH19 is a  $\beta$ -lactamase-producing strain and is known to be resistant to erythromycin, kanamycin, penicillin and tetracycline and high levels of gentamicin and streptomycin.<sup>1-3</sup> The complete genome of *E. faecalis*, strain CH19 has been sequenced (GenBank: [AJBF00000000](https://www.ncbi.nlm.nih.gov/nuccore/AJBF00000000)).

*E. faecalis* is a Gram-positive, facultatively anaerobic coccus that is a commensal inhabitant of the gastrointestinal and female genital tract.<sup>4</sup> It is also the most frequently isolated species, often as a mono-infection, from root canals of endodontically treated teeth with persistent apical periodontitis.<sup>5</sup> *E. faecalis* is an opportunistic pathogen and has become a serious concern in hospitals because of its inherent hardiness and high levels of antibiotic resistance.<sup>6</sup> Virulent strains often express a cytolysin toxin that is encoded on various mobile genetic elements, pathogenicity islands, and conjugative plasmids.<sup>7</sup>

**Material Provided:**

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

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

**Packaging/Storage:**

NR-31990 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 Brain Heart Infusion broth or equivalent

Tryptic Soy agar or Tryptic Soy agar with 5% defibrinated sheep blood or Brain Heart Infusion agar or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic (with or without 5% CO<sub>2</sub>) or 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 tube, slant and/or plate for 1 day.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Enterococcus faecalis*, Strain CH19, NR-31990."

**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](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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**References:**

1. Rice, L. B., et al. "Chromosomally Mediated  $\beta$ -Lactamase Production and Gentamicin Resistance in *Enterococcus faecalis*." Antimicrob. Agents Chemother. 35 (1991): 272-276. PubMed: 1902647.
2. Gilmore, M. S., Personal Communication.
3. McBride, S. M., et al. "Genetic Diversity among *Enterococcus faecalis*." PLoS One 2 (2007): e582. PubMed: 17611618.
4. Schleifer, K. H. and R. Kilpper-Bälz. "Transfer of *Streptococcus faecalis* and *Streptococcus faecium* to the Genus *Enterococcus* nom. rev. as *Enterococcus faecalis* comb. nov. and *Enterococcus faecium* comb. nov." Int. J. Syst. Bacteriol. 34 (1984): 31-34.
5. Stevens, R. H., O. D. Porras and A. L. Delisle. "Bacteriophages Induced from Lysogenic Root Canal Isolates of *Enterococcus faecalis*." Oral Microbiol. Immunol. 24 (2009): 278-284. PubMed: 19572888.
6. Arias, C. A. and B. E. Murray. "The Rise of the *Enterococcus*: Beyond Vancomycin Resistance." Nat. Rev. Microbiol. 10 (2012): 266-278. PubMed: 22421879.
7. McBride, S. M., et al. "Genetic Variation and Evolution of the Pathogenicity Island of *Enterococcus faecalis*." J. Bacteriol. 191 (2009): 3392-3402. PubMed: 19270086.

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