

***Enterococcus faecalis*, Strain MMH594**

Catalog No. NR-31975

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Contributor:

Michael S. Gilmore, Sir William Osler Professor of Ophthalmology, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, Massachusetts, USA

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Enterococcaceae*, *Enterococcus*

Species: *Enterococcus faecalis*

Strain: MMH594 (also referred to as EnGen0310)

Original Source: *Enterococcus faecalis* (*E. faecalis*), strain MMH594 was isolated in 1985 from the blood of a patient with bacteremia in Wisconsin, USA.^{1,2}

Comments: *E. faecalis*, strain MMH594 is reported to contain the first identified and sequenced pathogenicity island within the genus.^{2,3} This common laboratory strain is a cytolytic isolate which shows resistance to erythromycin and gentamicin.^{2,4} The complete genome of *E. faecalis*, strain MMH594 has been sequenced (GenBank: [AJDZ00000000](http://www.ncbi.nlm.nih.gov/GenBank/AB010000)).

E. faecalis is a Gram-positive, facultatively anaerobic coccus that is a commensal inhabitant of the gastrointestinal and female genital tract.⁵ It is also the most frequently isolated species, often as a mono-infection, from root canals of endodontically treated teeth with persistent apical periodontitis.⁶ *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.⁷ Virulent strains often express a cytolsin toxin that is encoded on various mobile genetic elements, pathogenicity islands, and conjugative plasmids.⁸

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X 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-31975 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:

Note: Specific growth conditions are reported on the Certificate of Analysis for each lot.

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: 35 to 37°C

Atmosphere: Aerobic (with or without 5% CO₂) 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 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Enterococcus faecalis*, Strain MMH594, NR-31975."

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:

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4. McBride, S. M., et al. "Genetic Diversity among *Enterococcus faecalis*." PLoS One 2 (2007): e582. PubMed: 17611618.
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7. Arias, C. A. and B. E. Murray. "The Rise of the *Enterococcus*: Beyond Vancomycin Resistance." Nat. Rev. Microbiol. 10 (2012): 266-278. PubMed: 22421879.
8. 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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