

Product Information Sheet for NR-32052

Enterococcus faecium, Strain HF50104

Catalog No. NR-32052

For research use only. Not for human use.

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 faecium*

Strain: HF50104 (also referred to as EnGen0185)

Original Source: *Enterococcus faecium* (*E. faecium*), strain HF50104 was isolated in 2008 from swine feces in Michigan, USA.^{1,2}

Comments: *E. faecium*, strain HF50104 is reported to be resistant to erythromycin, tetracycline and vancomycin, and susceptible to ampicillin, ciprofloxacin, gentamicin and linezolid.^{1,2} Strain HF50104 does not produce β -lactamase and tested negative for the *esp* and *hyl* virulence genes.¹ *E. faecium*, strain HF50104 is assigned to Clonal Complex 5 (CC5) and is classified as DNA sequence type 6 based on multi-locus sequence typing.¹ The complete genome of *E. faecium*, strain HF50104 has been sequenced (GenBank: [ATR000000000](https://www.ncbi.nlm.nih.gov/nuccore/ATR000000000)).

E. faecium is a Gram-positive, facultative anaerobic coccus that is a commensal inhabitant of the gastrointestinal tract of both humans and animals.³⁻⁵ *E. faecium* is an emerging and challenging nosocomial pathogen due to its inherent hardiness and ability to develop antibiotic resistance.^{3,4} Its large open pan-genome allows for horizontal gene transfer between *E. faecium* and other pathogenic and non-pathogenic bacteria to adapt to changing environments.³ CC5 is widely disseminated in swine in Europe and may be a predominant clone in swine in the U.S. as well.¹ Characteristics of CC5 strains are *in vitro* susceptibility to ampicillin, possession of *purK* allele 9 and lack of virulence genes.¹

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-32052 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% 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 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: *Enterococcus faecium*, Strain HF50104, NR-32052."

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. Donabedian, S. M., et al. "Characterization of Vancomycin-Resistant *Enterococcus faecium* Isolated from Swine in Three Michigan Counties." J. Clin. Microbiol. 48 (2010): 4156-4160. PubMed: 20739498.
2. Gilmore, M. S., Personal Communication.
3. van Schaik, W., et al. "Pyrosequencing-Based Comparative Genome Analysis of the Nosocomial Pathogen *Enterococcus faecium* and Identification of a Large Transferable Pathogenicity Island." BMC Genomics 11 (2010): 239. PubMed: 20398277.
4. Arias, C. A. and B. E. Murray. "The Rise of the *Enterococcus*: Beyond Vancomycin Resistance." Nat. Rev. Microbiol. 10 (2012): 266-278. PubMed: 22421879.
5. 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.
6. AbdelKhalek A., et al. "Repurposing Ebselen for Decolonization of Vancomycin-Resistant Enterococci (VRE)." PLoS One 13 (2018): e0199710. PubMed: 29953486.

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