Product Information Sheet for NR-32054

Enterococcus faecium, Strain HF50106

Catalog No. NR-32054

For research use only. Not for human use.

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Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Enterococcaceae, Enterococcus*
Species: *Enterococcus faecium*
Strain: HF50106 (also referred to as EnGen0187)
Original Source: *Enterococcus faecium* (*E. faecium*), strain HF50106 was isolated in 2008 from swine feces in Michigan, USA.[1,2]
Comments: *E. faecium*, strain HF50106 is reported to be resistant to erythromycin, tetracycline and vancomycin [1,2]; and susceptible to ampicillin, ciprofloxacin, gentamicin and linezolid.[1] Strain HF50106 does not produce β-lactamase and tested negative for the *esp* and *hyl* virulence genes.[1] *E. faecium*, strain HF50106 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 HF50106 has been sequenced (GenBank: AITS00000000).

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 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-32054 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% CO_2) 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 24 hours.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Enterococcus faecium*, Strain HF50106, NR-32054."

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. M. S. Gilmore, 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.

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