

***Bacteroides fragilis*, Strain 3_1_12**

Catalog No. HM-20

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bacteroidaceae*, *Bacteroides*

Species: *Bacteroides fragilis*

Strain: 3_1_12

Original Source: *Bacteroides fragilis* (*B. fragilis*), strain 3_1_12 was isolated in 2007 from the transverse colon of a healthy 52-year-old female undergoing a colon cancer screen procedure in Alberta, Canada.^{1,2}

Comments: *B. fragilis*, strain 3_1_12 ([HMP ID 118](#)) is a reference genome for [The Human Microbiome Project](#) (HMP). HMP is an initiative to identify and characterize human microbial flora. The complete genome of *B. fragilis*, strain 3_1_12 was sequenced at the [Broad Institute](#) (GenBank: [ABZX00000000](#)).

Note: HMP material is taxonomically classified by the depositor. Quality control of these materials is only performed to demonstrate that the material distributed by BEI Resources is identical to the deposited material.

B. fragilis is a Gram-negative, anaerobic, non-motile bacterium that is both a normal colonic commensal, critical to host mucosal and systemic immunity³, and an opportunistic pathogen. Although only a minor component of the human gut microflora (<1%), *B. fragilis* isolates are the primary anaerobe in clinical specimens, bloodstream infections and abdominal abscesses.⁴ Strains are classified as either nontoxigenic or enterotoxigenic *B. fragilis* (NTBF or ETBF, respectively), the latter secreting an extracellular metalloprotease toxin.^{4,5}

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Modified Reinforced Clostridial broth supplemented with 10% glycerol. Each vial of lot 59769195 contains approximately 0.5 mL of bacterial culture in Modified Chopped Meat broth supplemented with 10% glycerol.

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

Packaging/Storage:

HM-20 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:

Modified Chopped Meat medium or Modified Reinforced Clostridial medium or equivalent
Tryptic Soy agar with 5% defibrinated sheep blood or equivalent

Incubation:

Temperature: 37°C
Atmosphere: Anaerobic

Propagation:

1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into Modified Chopped Meat broth under anaerobic atmosphere.
3. Inoculate additional broth tubes with 0.5 mL each from the suspension. Slants may be inoculated with 0.2 mL each. Streak several agar plates to check for colony morphology and purity.
4. Incubate cultures at 37°C under anaerobic atmosphere for 1 to 2 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH as part of the Human Microbiome Project: *Bacteroides fragilis*, Strain 3_1_12, HM-20."

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. Allen-Vercoe, E., Personal Communication.
2. [HMP ID 118](#) (*Bacteroides fragilis*, strain 3_1_12)
3. Troy, E. B. and D. L. Kasper. "Beneficial Effects of *Bacteroides fragilis* Polysaccharides on the Immune System." *Front. Biosci.* 15 (2010): 25-34. PubMed: 20036803.
4. Sears, C. L. "Enterotoxigenic *Bacteroides fragilis*: A Rogue Among Symbiotes." *Clin. Microbiol. Rev.* 22 (2009): 349-369. PubMed: 19366918.
5. Sears, C. L. "The Toxins of *Bacteroides fragilis*." *Toxicon.* 39 (2011): 1737-1746. PubMed: 11595636.
6. Wexler, H. M. "*Bacteroides*: the Good, the Bad, and the Nitty-Gritty." *Clin. Microbiol. Rev.* 20 (2007): 593-621. PubMed: 17934076.
7. Walsh, C. J., et al. "*In silico* Identification of Bacteriocin Gene Clusters in the Gastrointestinal Tract, Based on the Human Microbiome Project's Reference Genome Database." *BMC Microbiol.* 15 (2015): 183. PubMed: 26377179.

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