

# Product Information Sheet for HM-20

## *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.<sup>1,2</sup>

**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: [ABZX000000000](#)).

**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 immunity, and an opportunistic pathogen.<sup>3</sup> 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.<sup>4</sup> Strains are classified as either nontoxigenic or enterotoxigenic *B. fragilis* (NTBF or ETBF, respectively), the latter secreting an extracellular metalloprotease toxin.<sup>4,5,6</sup> All *B. fragilis* strains are presumed to be resistant to ampicillin and penicillin.<sup>7</sup>

#### Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in cryopreservative (10% glycerol). Please refer to the Certificate of Analysis for the specific culture media used for each lot.

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

#### Packaging/Storage:

HM-20 was packaged aseptically in 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 broth or Modified Reinforced Clostridial broth 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 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 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](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

#### Disclaimers:

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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. CLSI M100-S28 (2018)
8. 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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