

***Bifidobacterium breve*, Strain JCP7499**

Catalog No. HM-1120

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bifidobacteriaceae*, *Bifidobacterium*

Species: *Bifidobacterium breve*

Strain: JCP7499

Original Source: *Bifidobacterium breve* (*B. breve*), strain JCP7499 isolated on January 5, 2011, from a clinical vaginal swab collected from a woman that tested positive for bacterial vaginosis (Nugent score = 8) at the Washington University School of Medicine in St. Louis, Missouri, USA.¹⁻³

Comments: *B. breve*, strain JCP7499 ([HMP ID 1587](#)) 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. breve*, strain JCP7499 was sequenced at the Genome Institute at [Washington University](#) (GenBank: [AWSX00000000](#)).

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. breve is a non-motile, Gram-positive bacterium commonly found in the normal human gut. While *Bifidobacteria* are considered to be obligate anaerobes, *B. breve* has been reported to grow in low levels of oxygen.⁴⁻⁶ It is among the first colonizers of the essentially sterile gastrointestinal tract of newborns and one of the dominant genera of the microbiota of healthy breastfed infants. *B. breve* is of interest for use as a probiotic.^{7,8}

Material Provided:

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

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

Packaging/Storage:

HM-1120 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 Reinforced Clostridial broth or equivalent

Tryptic Soy agar with 5% defibrinated sheep blood or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Anaerobic (80% N₂: 20% CO₂)

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 48 to 72 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH as part of the Human Microbiome Project: *Bifidobacterium breve*, Strain JCP7499, HM-1120."

Biosafety Level: 1

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. [HMP ID 1482](#) (*Bifidobacterium breve*, strain HPH0326)
2. A. Lewis, Personal Communication.
3. Lewis, W. G., et al. "Degradation, Foraging, and Depletion of Mucus Sialoglycans by the Vagina-Adapted *Actinobacterium Gardnerella vaginalis*." *J. Biol. Chem.* 288 (2013): 12067-12079. PubMed: 23479734.
4. Leahy, S. C., et al. "Getting Better with *Bifidobacteria*." *J. Appl. Microbiol.* 98 (2005): 1303-1315. PubMed: 15916644.
5. Kawasaki, S., et al. "Effect of CO2 on Colony Development by *Bifidobacterium* Species." *Appl. Environ. Microbiol.* 73 (2007): 7796-7798. PubMed: 17921279.
6. Shimamura, S., et al. "Relationship Between Oxygen Sensitivity and Oxygen Metabolism of *Bifidobacterium* Species." *J. Dairy Sci.* 75 (1992): 3296-306. PubMed: 1474198.
7. Kleerebezem, M. and E. E. Vaughan. "Probiotic and Gut *Lactobacilli* and *Bifidobacteria*: Molecular Approaches to Study Diversity and Activity." *Annu. Rev. Microbiol.* 63 (2009): 269-290. PubMed: 19575569.
8. Lee, J. H. and D. J. O'Sullivan. "Genomic Insights into *Bifidobacteria*." *Microbiol. Mol. Biol. Rev.* 74 (2010): 378-416. PubMed: 20805404.

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