

***Bifidobacterium adolescentis*, Strain L2-32**

Catalog No. HM-633

For research use only. Not for human use.

Contributor:

Harry J. Flint and Sylvia H. Duncan, Department of Gut Health, Rowett Institute of Nutrition and Health, University of Aberdeen, Bucksburn, Aberdeen, Scotland, United Kingdom

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bifidobacteriaceae*, *Bifidobacterium*

Species: *Bifidobacterium adolescentis*

Strain: L2-32

Original Source: *Bifidobacterium adolescentis* (*B. adolescentis*), strain L2-32 was obtained in 1996 from the fecal sample of a healthy two-year-old in Scotland, United Kingdom.^{1,2}

Comments: *B. adolescentis*, strain L2-32 ([HMP ID 0159](#)), a starch-degrading isolate^{1,3}, 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. adolescentis*, strain L2-32 was sequenced at the Genome Institute at [Washington University](#) (GenBank: [AAXD00000000](#)).

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. adolescentis is an anaerobic, non-motile, Gram-positive, rod-shaped bacterium commonly found in the normal human intestinal microflora.^{4,5} *B. adolescentis* 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. It is considered to be a beneficial organism for human health and for this reason is used in probiotics.⁴

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in 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-633 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

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 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: *Bifidobacterium adolescentis*, Strain L2-32, HM-633."

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. Flint, H. J. and S. H. Duncan, Personal Communication.
2. [HMP ID 0159](#) (*Bifidobacterium adolescentis*, strain L2-32)
3. Duncan, S. H., P. Louis and H. J. Flint. "Lactate-Utilizing Bacteria, Isolated from Human Feces, that Produce Butyrate as a Major Fermentation Product." Appl. Environ. Microbiol. 70 (2004): 5810-5817. PubMed: 15466518.
4. Leahy, S. C., et al. "Getting Better with Bifidobacteria." J. Appl. Microbiol. 98 (2005): 1303-1315. PubMed: 15916644.
5. Duranti, S., et al. "Exploration of the Genomic Diversity and Core Genome of the *Bifidobacterium adolescentis* Phylogenetic Group by Means of a Polyphasic Approach." Appl. Environ. Microbiol. 79 (2013): 336-346. PubMed: 23064340.
6. Lee, J. H. and D. J. O'Sullivan. "Genomic Insights into Bifidobacteria." Microbiol. Mol. Biol. Rev. 74 (2010): 378-416. PubMed: 20805404.
7. Cronin, M., et al. "Progress in Genomics, Metabolism and Biotechnology of Bifidobacteria." Int. J. Food Microbiol. 149 (2011): 4-18. PubMed: 21320731.
8. Belenguer, A., et al. "Two Routes of Metabolic Cross-Feeding between *Bifidobacterium adolescentis* and Butyrate-Producing Anaerobes from the Human Gut." Appl. Environ. Microbiol. 72 (2006): 3593-3599. PubMed: 16672507.
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