



# 10 Strain Even Mix Whole Cell Material

MSA-2003™

## Description

NGS Standards are mock microbial communities that mimic mixed metagenomic samples. This product is prepared as a mixture of whole cells and comprises fully sequenced, characterized, and authenticated ATCC Genuine Cultures® that were selected based on relevant phenotypic and genotypic attributes, such as Gram stain, GC content, genome size, and spore formation. Each order for this product is provided with access to run 5 analyses on One Codex, the leading bioinformatics platform for microbial genomics and metagenomics.

Specification Range:  $2 \times 10^7$  cells/vial  $\pm 1 \log^*$

\*Whole cell concentrations indicate ATCC manufacturing specifications and are provided as a reference only

### Components:

- 10% *Bacillus pacificus* (ATCC 10987)
- 10% *Bifidobacterium adolescentis* (ATCC 15703)
- 10% *Clostridium beijerinckii* (ATCC 35702)
- 10% *Deinococcus radiodurans* (ATCC BAA-816)
- 10% *Enterococcus faecalis* (ATCC 47077)
- 10% *Escherichia coli* (ATCC 700926)
- 10% *Lactobacillus gasseri* (ATCC 33323)
- 10% *Cereibacter sphaeroides* (ATCC 17029)
- 10% *Staphylococcus epidermidis* (ATCC 12228)
- 10% *Streptococcus mutans* (ATCC 700610)

---

## Storage Conditions

**Product format:** Freeze-dried

**Storage conditions:** 2°C to 8°C

---

## Intended Use

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

Purchase of this product will include limited use access to the One Codex platform for metagenomic analysis of ATCC microbiome products. By purchasing this product, you consent and agree to allow ATCC to securely transfer sales and end users' data related to this product to One Codex. Provision of One Codex access, storage, management of sequencing data, and the interpretation and accuracy of analytical results provided by One Codex are the responsibility of One Codex and not ATCC. End users should visit [onecodex.com](https://onecodex.com) for their complementary metagenomic data analysis.



---

## BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vial exploding or blowing off its cap

with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

---

### Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at [www.atcc.org](http://www.atcc.org).

---

### Handling Procedures

1. Add 1 mL of cold PBS to the lyophilized pellet.
  2. Allow the pellet to dissolve at least for two minutes; keep the vial on ice to prevent cell lysis.
  3. After reconstitution, mix the product gently and aliquot 200  $\mu$ L into five Eppendorf tubes.
  4. Centrifuge for 10 min at 10,000xg at 4°C.
  5. Carefully discard the supernatant without disrupting the pellet.
  6. Use the pellet for DNA extraction immediately or freeze the pellet for use at later time.
- 

### Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: 10 Strain Even Mix Whole Cell Material (ATCC MSA-2003)

---

### References

References and other information relating to this material are available at [www.atcc.org](http://www.atcc.org).

---

### Warranty

The product is provided 'AS IS' and the viability of ATCC® products is warranted for 30 days from the date of shipment, provided that the customer has stored and handled the product according to the information included on the product information sheet, website, and Certificate of Analysis. For living cultures, ATCC lists the media formulation and reagents that have been found to be effective for the product. While other unspecified media and reagents may also produce satisfactory results, a change in the ATCC and/or depositor-recommended protocols may affect the recovery, growth, and/or function of the product. If an alternative medium formulation or reagent is used, the ATCC warranty for viability is no longer valid. Except as expressly set forth herein, no other warranties of any kind are provided, express or implied, including, but not limited to, any implied warranties of merchantability, fitness for a particular purpose, manufacture according to cGMP standards, typicality, safety, accuracy, and/or noninfringement.

---

### Disclaimers

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use. Any proposed commercial use is prohibited without a [license from ATCC](#).

While ATCC uses reasonable efforts to include accurate and up-to-date information on this product sheet, ATCC makes no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. ATCC does not warrant that such information has been confirmed to be accurate or complete and the customer bears the sole responsibility of confirming the accuracy and completeness of any such information.

This product is sent on the condition that the customer is responsible for and assumes all risk and responsibility in connection with the receipt, handling, storage, disposal, and use of the ATCC product including without limitation taking all appropriate safety and handling precautions to minimize health or environmental risk. As a condition of receiving the material, the customer agrees that any activity undertaken with the ATCC product and any progeny or modifications will be conducted in compliance with all applicable laws, regulations, and guidelines. This product is provided 'AS IS' with no representations or warranties whatsoever except as expressly set forth herein and in no event shall ATCC, its parents, subsidiaries, directors, officers, agents, employees, assigns, successors, and affiliates be liable for indirect, special, incidental, or consequential damages of any kind in connection with or arising out of the customer's use of the product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, ATCC is not liable for damages arising from the misidentification or misrepresentation of such materials.

Please see the material transfer agreement (MTA) for further details regarding the use of this product. The MTA is available at [www.atcc.org](http://www.atcc.org).

---

### Copyright and Trademark Information

© ATCC 2023. All rights reserved.

ATCC is a registered trademark of the American Type Culture Collection.

---

### Revision

This information on this document was last updated on 2025-04-01

---

### Contact Information

ATCC

10801 University Boulevard

Manassas, VA 20110-2209

USA

## 10 Strain Even Mix Whole Cell Material

MSA-2003

US telephone: 800-638-6597

Worldwide telephone: +1-703-365-2700

Email: [tech@atcc.org](mailto:tech@atcc.org) or contact your local distributor

---