Non-Enzymatic Cell Dissociation Solution

**0-2103™**

**Description**

Trypsin is the most commonly used enzyme for harvesting cells in culture. A non-enzymatic approach is needed when non-protein and animal-component free materials are required. ATCC Non-Enzymatic Cell Dissociation Solution is a sterile, phenol-red free solution composed of a proprietary mixture of chelators representing an optimized alternative to protein-digesting enzymes. This product is totally free of animal-derived components. This product has applications for cell culture, cell growth, and viability.

- **Volume** 100 mL

**Storage Conditions**

- **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.

**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.

**Certificate of Analysis**
Handling Procedures

Each type of cell or cell line responds to Non-Enzymatic Cell Dissociation Solution in a unique manner. For optimum results, frequently observe the cells during the dissociation process to prevent damage. For cell-specific information, please refer to the product sheet supplied with the cells or cell line.

*Note: The use of Non-Enzymatic Cell Dissociation Solution is not recommended for highly adherent cell types, such as keratinocytes.*

1. Bring D-PBS to room temperature before use. Warm the Non-Enzymatic Cell Dissociation Solution and complete growth medium to 37°C prior to use with the cells.
2. For each vessel, carefully aspirate the spent media without disturbing the monolayer. The type of rinsing agent to use is dependent on the composition of the complete growth medium; proceed with one of the following options.
   - **Option 1:** If the cell culture medium contains serum, each flask should be rinsed with D-PBS twice prior to adding the Non-Enzymatic Cell Dissociation Solution.
   - **Option 2:** If working with serum-free medium, each flask should be rinsed twice with 1 mM EDTA in D-PBS prior to adding the Non-Enzymatic Cell Dissociation Solution.
3. Using 1.5 mL for every 25 cm², add the appropriate volume of Non-Enzymatic Cell Dissociation Solution to each vessel (e.g., each T-25 vessel would be dissociated with 1.5 mL Non-Enzymatic Cell Dissociation Solution).
4. Gently rock each flask to ensure complete coverage of the Non-Enzymatic Cell Dissociation Solution over the cells.
5. Place the flask(s) in a 37°C, 5% CO₂, incubator.
6. Observe the cells every 5 to 10 minutes under the microscope. When the cells pull away from each other and round up, remove the flask from the microscope and gently tap the culture vessel from several sides to promote detachment of the cells from the flask. (Some cell types may require more vigorous tapping.)
7. When the majority of cells appear to have detached, disperse the cells into suspension by repeated pipetting.
8. Transfer the dissociated cells to a sterile centrifuge tube and set aside while processing any remaining cells in the culture vessel.
9. Add 3 to 5 mL D-PBS to the tissue culture vessel to collect any additional cells that might have been left behind.
10. Transfer the cells and D-PBS to the centrifuge tube containing the Non-Enzymatic Cell Dissociation Solution-dissociated cells.
11. Repeat steps 8 and 9 as needed until all cells have been collected from all vessels.
12. Centrifuge the cells at 125 x g for 5 to 10 minutes.
   a. Do not over-centrifuge cells as this may cause cell damage.
   b. After centrifugation, the cells should form a clean loose pellet.
Aspirate neutralized dissociation solution and resuspend the cell pellet in 2 to 8 mL fresh, prewarmed, complete growth medium.

14. Count the cells and seed new culture vessels at the recommended density.
15. Place newly seeded vessels in a 37°C, 5% CO₂, incubator, and incubate for at least 24 to 48 hours before processing the cells further.

---

**Quality Control Specifications**

- **Mycoplasma contamination** Not detected
- **Osmolality** 280 to 300 mOsm/kg

---

**Material Citation**

If use of this material results in a scientific publication, please cite the material in the following manner: Non-Enzymatic Cell Dissociation Solution (ATCC 30-2103)

---

**References**

References and other information relating to this material are available at 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.

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 2023-05-13

Contact Information
Non-Enzymatic Cell Dissociation Solution
30-2103

ATCC
10801 University Boulevard
Manassas, VA 20110-2209
USA
US telephone: 800-638-6597
Worldwide telephone: +1-703-365-2700
Email: tech@atcc.org or contact your local distributor