



Non-Enzymatic Cell Dissociation Solution (1X)

Single Cell Passaging for Human Stem Cell (hESCs/iPSCs)

Catalog Number: ST03001

Size: 100 ml

Non-Enzymatic Cell Dissociation Solution is an enzyme-free solution suitable for the gentle dissociation of culture cells, especially for human ESCs/iPSCs in feeder-free condition (Single cell passaging).

Product Description

Stemmera™ Non-Enzymatic Cell Dissociation Solution (1X) is designed as an alternative to Trypsin, TrypLE, or Dispase for gentle dissociation of human stem cells, including Embryonic Stem Cells (ESCs) and induced Pluripotent Stem Cells (iPSCs), when cells were in feeder-free condition. This solution is free of animal and human components.

Product Component

Component	Size	Storage	Cat #
Non-Enzymatic Cell Dissociation Solution (1X)	100 ml	Room Temperature	ST03001

Storage and Handling

Stemmera™ Non-Enzymatic Cell Dissociation Solution (1X) is shipped at room temperature. Store the solution at room temperature upon arrival and until the expiration date stated on the product label. The solution should remain stable at room temperature for at least 2 years when stored as directed

Product Use

This product is intended for *in vitro* use and research use only. Not intended for human or animal diagnostic or therapeutic uses.

Application

- General single cell passaging for human stem cell
- Cell preparation for human stem cell targeting
- Cell preparation for human stem cell FACS/Sorting

General Precautions

1. Clean working space with 70% ethanol or other suitable disinfectant.

2. Clinical samples should be treated as hazardous biological samples.
3. Use aerosol barrier tips. Change tips after each use.
4. Material Safety Data Sheet (MSDS) is available online.

Protocol

Dissociation of human stem cells with Stemmera™ Non-Enzymatic Cell Dissociation Solution (1X)

1. Culture human stem cells on Matrigel coated plates with Stemmera™ Human ESCs/iPSCs Serum-/Feeder-Free Medium (hStemSFM, Cat # ST02001) or on rLaminin coated plates with Stemmera™ Human ESCs/iPSCs Xeno-Free Medium (hStemXFM, Cat# ST02002) until the cells have reached 80-90% confluency.
2. Gently aspirate and discard medium from culture vessel (flask, petri dish, plate, etc.)
3. Add Non-Enzymatic Cell Dissociation Solution to the vessel (1 ml for each well of 6-well plate) and gently swirl the vessel to cover the monolayer completely.
4. Incubate vessel at 37°C for 5 minutes and periodically observe cells under an inverted microscope, until cells begin to round up. (Note: Avoid cells from detaching and adjust the incubation time according to the cell density).
5. Add 1 ml of complete culture medium in one well of 6-well plate.
6. Pipet cells up and down gently a few times in vessel to further break up cell colonies until getting the single cells. (Note: Pipet carefully to reduce foaming).
7. Transfer entire single cell suspension to the new Matrigel or rLaminin coated plates. (Note: No centrifugation is needed. The split ratio of human stem cell is 1:6-1:12)
8. Add sufficient complete medium to the vessel to cover cell monolayer. (Adjust the medium volume based on the vessel size, for example, 2 ml of medium per well of 6 well plate).
9. Incubate cells at 37°C in a humidified incubator with 5% CO₂ and/or 5% O₂ (Low oxygen) incubator.

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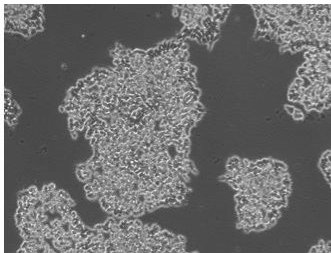


10. Change medium daily until the cells have reached 80-90% confluency and split cells again with Non-Enzymatic Cell Dissociation Solution.

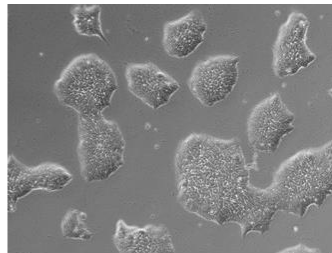
Note: The amount of Non-Enzymatic Cell Dissociation Solution used and duration of time needed to dislodge cells shall vary depending upon the cell line and container size used.

Quality Control

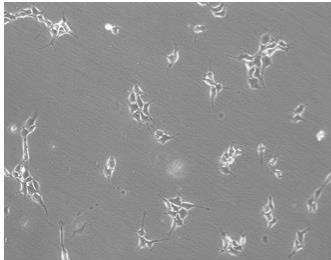
This product is used to dissociate human ESCs/iPSCs while 2 steps of neutralizing and centrifuge cells can be skipped. To ensure the quality, the following images are representative results of dissociation of human ESCs/iPSCs and how the cells grow during a time course.



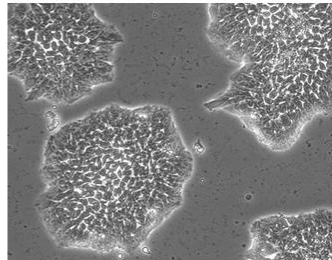
hiPSCs treated by Non-Enzymatic Cell Dissociation Solution for 5 min (day 0)



hiPSCs treated by Non-Enzymatic Cell Dissociation Solution and culture in Stemmera SFM for 96 hours (day 4)



hiPSCs treated by Non-Enzymatic Cell Dissociation Solution and culture in Stemmera SFM for 24 hours (day 1)



hiPSCs treated by Non-Enzymatic Cell Dissociation Solution and culture in Stemmera SFM for 120 hours (day 5)

Related Products

Product	Cat #	Size
Alkaline Phosphatase Detection Kit (Ready-to-Use) - Blue	ST01001	50 tests
Alkaline Phosphatase Detection Kit (Ready-to-Use) - Red	ST01002	50 tests
Human ESCs/iPSCs Serum-/Feeder-Free Medium (hStemSFM)	ST02001	500 ml
Human ESCs/iPSCs Xeno-Free Medium (hStemXFM)	ST02002	500 ml
Serum-Free Cryopreservation Solution for Human ESCs/iPSCs	ST03002	50 ml

Technical Support

For more product and technical information, please visit our website at www.stemmera.com.

For further assistance, email your inquiries to our Technical Support team at techsupport@stemmera.com.

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