

Enzyme-Free Cell Detachment Solution (with Phenol Red, Sterile)

Cat. No.: E1509627 | Pack size: 100ml | Storage: Room temperature

Product Description

Trypsin is secreted as inactive trypsinogen by the pancreas into the small intestine, where it is activated by enteropeptidase to form active trypsin. It is commonly used for dissociating cultured cells from animal tissues or digesting certain tissues, but it poses potential damage to cells, with more severe harm particularly at 37°C. Enzyme-Free Cell Dissociation Solution (Phenol Red Included) contains no proteolytic enzymes such as trypsin, yet it can effectively detach adherent cells from the surface of culture flasks/dishes to achieve cell separation. This reagent is for research use only (RUO) and is not intended for clinical diagnosis or any other purposes.

Features:

1. Gentle action on cells.
2. Minimal damage and disruption to cells, without affecting cellular biological properties, making it an excellent method for detaching tumor cells.
3. Enables cell dissociation in the presence of serum. Dissociated cells can be subjected to subculture, or used for experiments including nuclear and cytoplasmic protein extraction, Western Blot, and co-immunoprecipitation. Most adherent cells can be detached within approximately 10 minutes at room temperature. This solution is suitable for digesting tumor, brain, liver, kidney, and lung tissues, and is especially applicable to epithelial tissues.

Materials to Be Prepared by Users

1. PBS buffer, cell culture medium.
2. Microscope, centrifuge.

Operating Procedures (For Reference Only)

1. Dissociation of Adherent Cells

- ① Aspirate the culture medium and rinse the cells once with sterile PBS buffer or culture medium.
- ② Add a small amount of Enzyme-Free Cell Dissociation Solution (Phenol Red Included), just enough to cover the cells (generally, add 10 times the effective volume of the cells).

③ Incubate at room temperature for 10 minutes; the detachment reaction can be accelerated at 37°C until the cells are completely detached, with the incubation time varying for different cell types. Alternatively, observe the cells under a microscope: remove the dissociation solution once the cells show obvious shrinkage, visible morphological changes at the bottom of the culture vessel to the naked eye, or can be readily detached by pipetting.

④ Add cell culture medium or 5 volumes of PBS buffer to terminate the reaction. If dissociation is insufficient, add fresh Enzyme-Free Cell Dissociation Solution (Phenol Red Included) and repeat the process.

⑤ Centrifuge at 1000-2000×g for 3-5 minutes to pellet the cells. Discard the supernatant, remove residual Enzyme-Free Cell Dissociation Solution (Phenol Red Included) as thoroughly as possible, and resuspend the cells in complete culture medium containing serum for subsequent experiments.

2. Digestion of Tissues

① Rinse the tissues once with PBS buffer or culture medium, and transfer the minced tissue fragments to an appropriate container using a sterile spatula or spoon.

② Add Enzyme-Free Cell Dissociation Solution (Phenol Red Included) at 5-10 times the effective volume of the tissues.

③ Incubate at 37°C for 4-48 hours without shaking; the incubation time varies for different tissues. For hard-to-digest tumor cells, the incubation time can be extended to 5 days or longer, with resuspension in fresh dissociation solution required during this period.

④ Pipette the tissue fragments several times to release the loosened cells. Gently shake the culture flask or dish and check the dissociation status under an inverted microscope. If the number of released cells is small and/or cells are still visible within the tissue fragments, continue the digestion process.

⑤ Centrifuge at 1000-2000×g for 3-5 minutes to pellet the cells. Discard the supernatant, remove residual Enzyme-Free Cell Dissociation Solution (Phenol Red Included) as thoroughly as possible, and resuspend the cells in complete culture medium containing serum for subsequent experiments.

Precautions

1. Minimize repeated freeze-thaw cycles to prevent reagent inactivation.
2. Use the reagent as soon as possible after opening to avoid compromising subsequent experimental results.
3. Exercise extreme caution to prevent bacterial contamination of the cell dissociation solution during use.
4. Avoid prolonged incubation of cells with the dissociation solution, as this may lead to poor cell growth after plating.

5. For your safety and health, wear a lab coat and disposable gloves during operation.

Product Information

Item	Information
Cat. No.	E1509627
Product Name	Enzyme-Free Cell Detachment Solution (with Phenol Red, Sterile) - BioReagent, sterile, for cell culture
Synonyms	Enzyme-Free Cell Dissociation Solution (Phenol Red Included) Enzyme- Free Cell Detachment Solution Enzyme-Free Cell Dissociation Solution
Application	Cell Culture, Cell Separation, Co-IP, Protein Extraction, WB, Western Blot
Storage	Room temperature
Shipped In	Normal

Specifications

Parameter	Specification
Synonyms	Enzyme-Free Cell Dissociation Solution (Phenol Red Included) Enzyme-Free Cell Detachment Solution Enzyme-Free Cell Dissociation Solution
Specifications & Purity	BioReagent, sterile, for cell culture
Stability And Storage	Store at room temperature long term (12 months).
Storage	Room temperature
Shipped In	Normal

Safety & Precautions

- Read the current Safety Data Sheet (SDS) before use and follow local laboratory safety and EHS requirements.
- Wear appropriate personal protective equipment, including lab coat, gloves, and eye protection.
- Use only for research and laboratory applications. Do not use for human or animal diagnostics, therapeutics, food, household, or cosmetic applications.

Quality Control

QC Item	Method	Acceptable Range
Appearance	Visual inspection	Solution should be clear and free from visible contamination unless otherwise stated on the COA.
Activity	Functional activity assay	Meets the activity specification stated in the lot-specific COA.
Product identity and specifications	Lot-specific quality testing	Conforms to the approved product specification and certificate of analysis.
Storage and packaging	Label and packaging inspection	Pack size, storage condition, lot number, and expiry information are verified before release.

Troubleshooting

Issue	Possible Causes	Corrective Action
Unexpected cell response	Incorrect working concentration, unsuitable cell type, or temperature deviation	Verify the recommended application, equilibrate reagent as required, and optimize incubation conditions for the cell type.
Reduced performance	Repeated freeze-thaw, expired reagent, or inappropriate storage	Store according to the label and aliquot when recommended. Avoid repeated freeze-thaw cycles.
Visible contamination	Aseptic handling failure or compromised container	Do not use contaminated reagent. Use sterile technique and inspect the container before use.

Recommended Applications

Cell Culture, Cell Separation, Co-IP, Protein Extraction, WB, Western Blot.

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Limitations & Disclaimer

- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.
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