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DATA SHEET

Rev.ver: 01

1. Identification

Product Name: **Trypsin Phosphate Versene Glucose (TPVG) Solution 1x** with 0.25% Trypsin, 0.5% PVP, 0.02% EDTA and 0.05% Glucose in Dulbecco's Phosphate Buffered Saline with Phenol Red, Sterile filtered

Catalog.no: **CCDR025**

2. Description

Trypsin Phosphate Versene Glucose (TPVG) Solution 1x is a sterile, ready-to-use cell dissociation reagent formulated for robust detachment of adherent mammalian cells during sub-culturing, harvesting, and preparation of single-cell suspensions.

This formulation contains:0.25% (w/v) Trypsin – a serine protease that hydrolyzes peptide bonds at lysine and arginine residues, facilitating the breakdown of cell–substrate and cell–cell attachments.
0.5% (w/v) PVP (Polyvinylpyrrolidone) – acts as a stabilizing and protective colloid, reducing excessive cell damage and improving cell viability during enzymatic digestion.
0.02% (w/v) EDTA disodium salt – chelates Ca^{2+} and Mg^{2+}, enhancing trypsin activity by destabilizing adhesion molecule interactions.
0.05% (w/v) Glucose – provides an immediate energy substrate to help maintain cell integrity during dissociation.
Phenol red functions as a pH indicator, allowing visual monitoring during cell dissociation steps.

The solution is prepared in Dulbecco's Phosphate Buffered Saline (DPBS) without phenol red, calcium, or magnesium, ensuring optimal enzymatic activity and compatibility with sensitive downstream assays where indicators or divalent cations may interfere.

This reagent is sterile-filtered (0.22 µm) and suitable for a wide range of adherent cell lines in research and biotechnology applications.

3. Storage/Stability

Store the product at -20°C. This has an expiration period of 1 year. Reagent label bears expiration date.

4. Procedure

Directions for Use: Cell Dissociation

1. Remove spent medium from the culture vessel.
2. Rinse the cell layer once with a salt solution without calcium and magnesium and discard.
3. Add sufficient TPVG Solution 1x to cover the cell monolayer.
4. Gently rock the vessel to distribute the solution evenly.
5. Incubate at 37 °C for 1–3 minutes.

6. Observe under a microscope until cells begin to round up and detach.
7. Gently tap the vessel to assist release if needed.
8. Add an equal volume of serum-containing growth medium to stop trypsin activity.
9. Pipette gently to obtain a single-cell suspension.
10. Proceed with cell counting, sub-culturing, or downstream applications.

5. Precautions and Disclaimer

This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.