NeoBioPharma
Advancing Health Through Innovation.

Data Sheet
Trypsin Neutralization Solution
Catalog # NBP-TN-01

Product Description

Trypsin Neutralization Solution (NBP-TN-01) is a sterile, ready-to-use formulation designed to rapidly and effectively inactivate residual trypsin activity following cell dissociation. This product minimizes proteolytic damage to cells, improves post-passage viability, and ensures consistent, reproducible cell culture outcomes.

Intended Use: For research use only. Not for human or clinical applications.

Product Specifications

Parameter	Specification
Catalog Number	NBP-TN-01
Form	Liquid, sterile
Volume	100 mL
Concentration	1.0 mg/mL (sufficient to neutralize 0.05% trypsin at 1:1 ratio)
Buffer	Phosphate-buffered saline (PBS), pH 7.2–7.4, without Ca^{2+}/Mg^{2+}
Endotoxin Level	≤ 0.5 EU/mL
Sterility	Negative for bacteria, fungi, and mycoplasma

Parameter	Specification
Storage	2–8 °C (do not freeze)
Shelf Life	12 months from date of manufacture when stored as directed

The solution is sterile-filtered (0.2 µm) and tested for cell culture compatibility.

Storage and Handling

- Store at **2–8 °C**. **Do not freeze**, as freezing may denature the inhibitor.
- Protect from light.
- Use aseptic technique when withdrawing aliquots to maintain sterility.
- If any precipitate or turbidity is observed, do not use.

Instructions for Use

Standard Neutralization Protocol

1. After trypsin/EDTA treatment and cell detachment (see Catalog # NBP TE 03), add an equal volume of Trypsin Neutralization Solution directly to the cell suspension.
    - *Example:* For 2 mL of trypsin/EDTA in a T25 flask, add 2 mL of neutralization solution.
2. Gently pipette or swirl to mix thoroughly.
3. Proceed with centrifugation, cell counting, or plating as desired. The neutralized cell suspension is gentle enough to be added directly to culture vessels without washing, though washing is recommended if complete removal of dissociation reagents is required.

For Enhanced Recovery

- For particularly sensitive cells (e.g., primary endothelial cells), allow the neutralization mixture to stand for 1–2 minutes at room temperature before centrifugation to ensure complete inhibition.

Note: The solution is formulated to neutralize a final concentration of 0.025% trypsin when mixed 1:1 with an equal volume of 0.05% trypsin/EDTA. Adjust volume accordingly if different trypsin concentrations are used.

Quality Control

Each lot of Trypsin Neutralization Solution is tested to ensure consistent performance:

- **Sterility:** Passes 14-day sterility test per USP <71>.
- **Mycoplasma:** Negative by PCR.
- **Endotoxin:** ≤0.5 EU/mL by LAL assay.
- **Activity:** Inhibits ≥ 95% of trypsin activity (0.05% trypsin) within 2 minutes at 1:1 dilution, as measured by chromogenic substrate assay.
- **Functional Assay:** Neutralized HUVEC suspensions show ≥ 95% viability (trypan blue exclusion) and normal attachment and proliferation after plating.

A Certificate of Analysis (CoA) is available for each lot upon request.

Applications

- Termination of trypsin/EDTA activity during routine subculturing
- Gentle harvesting of primary cells, stem cells, and other sensitive adherent cell types
- Preparation of single-cell suspensions for flow cytometry, sorting, or single-cell RNA-seq
- Use in place of serum-containing medium to avoid variable serum components
- Cell isolation protocols requiring defined, serum-free conditions

Safety and Precautions

- **For Research Use Only.** Not for human or animal therapeutic or diagnostic use.
- Handle with standard laboratory safety practices. Use appropriate personal protective equipment (gloves, lab coat, safety glasses).
- Dispose of all waste according to local regulations.
- Avoid ingestion, inhalation, or direct skin contact.

Related Products

Product	Catalog Number
Trypsin/EDTA Solution (0.05%)	NBP-TE-03
Endothelial Basal Medium	NBP-03
Endothelial Cell Growth Supplement Kit	NBP-GS-01
Endothelial Cell Attachment Factor	NBP-AF-02
HUVEC, Cryopreserved Solution	NBP-C-HUVEC

IMPORTANT: This warranty is valid for one month from the original purchase date.