Soybean Trypsin Inhibitor (STI)

Catalog #0173

Product Description

Soybean Trypsin Inhibitor (STI) can be used to neutralize the effects of Trypsin/EDTA (Cat. #0103) after the release of cells from a culture surface. It is formulated with a trypsin inhibitor (5mg/ml) isolated from *Glycine max* (soybean) and inhibits trypsin at a 1:1 molar ratio [1, 2].

STI is a sterile, phosphate buffered saline solution. The product is calcium- and magnesium-free and has a pH of 7.4 at room temperature.

Product Use

STI is for research use only. It is not approved for human or animal use, or for application in clinical or *in vitro* diagnostic procedures.

Storage

Store at -20°C. Once thawed, the product may be stored at 4°C for up to one month.

Shipping

Dry ice.

References

[1] Kunitz M. (1945). "Crystallization of a trypsin inhibitor from soybean." *Science* 101:668-669.
[2] Kunitz M. (1947). "Crystalline soybean trypsin inhibitor: II. General properties." *J. Gen. Physiol*. 30:291-310.

Instructions for Use

The trypsin concentration and incubation time required to remove cells from the culture surface is dependent on cell type, population density, and serum concentration in the growth medium. Using a concentration too high or for too long will damage cell membranes and may result in cell death. If unsure about the concentration and duration of trypsin to use, begin with a low concentration and monitor the change in cell morphology (rounding up) under a microscope.

1) Aspirate medium from culture vessel and wash the cells with Ca^{+2} and Mg^{+2}-free salt solution (DPBS, Cat. #0303) to remove all traces of serum. Remove salt solution by aspiration.
2) Dispense enough trypsin/EDTA solution into culture vessel to completely cover the cells and place in 37°C incubator for 1-2 minutes or until 80% of cells have rounded up (as monitored with microscope).

Note: Use ScienCell T/E solution (Cat. #0103) that is optimized to minimize cell damages due to over trypsinization.

3) Remove the trypsin/EDTA solution by aspiration and return closed culture vessel to incubator for another 1-2 minutes (no solution in the vessel at this moment).
4) At the end of incubation, gently tap the side of the flask to dislodge cells from the surface. Check under a microscope to make sure that all cells detached.
5) Add STI to the cells as soon as possible to inhibit further tryptic activity which may damage cells. Transfer detached cells to a centrifuge tube.

   Note: The volume of STI required depends on the vessel surface area and trypsin concentration used. We recommend 5 ml for a T-75 flask.

6) Rinse the flask with another volume of STI to collect the residual cells.
7) Examine the flask under a microscope for a successful cell harvest by looking at the number of cells being left behind; there should be less than 5%.
8) Centrifuge the tube at 1000 rpm for 5 minutes. Resuspend cells in culture medium. Further dilution can be made, if required, for cell counts and/or subculturing.

Caution: If handled improperly, some components of this product may present a health hazard. Take appropriate precautions when handling this product, including the wearing of protective clothing and eyewear. Dispose of properly.