0.4% Trypan Blue Solution

Cat. No.: PB180423

Size: 100 mL

General Information

Product Form	Liquid
Concentration	4 g/L
Dissolvent	0.85% NaCl
Storage	2-30°C
Shipping	Room Temperature
Expiration date	36 months

Product Description

Trypan Blue is a cell-reactive dye that is often used to test the integrity of cell membranes and cell survival. Trypan blue staining is one of the most commonly used methods for dead cell identification in tissue and cell culture.Cells that are inactive or have incomplete cell membranes can be stained blue by trypan blue while normal living cells have intact cell membranes that reject trypan blue and do not dye cells blue. The loss of cell membrane integrity is generally considered to be that the cell has died. Macrophages can phagocytosis trypan blue, so it can be used as a living staining agent for macrophages. In addition, it should be noted that apoptotic bodies also have trypan blue staining rejection.

Instructions for use

1. Cells are collected (adherent cells should be detached with 0.25% trypsin containing EDTA). Centrifuge at 1000 rpm (200 g/min) for 5 min, discard the supernatant, and resuspend the cell pellet to prepare a single-cell suspension. Dilute the suspension to an appropriate concentration.
2. Mix an appropriate volume of the cell suspension with 0.4% Trypan Blue solution at a 9:1 ratio (i.e., add 0.4% Trypan Blue solution to the cell suspension) to achieve a final Trypan Blue concentration of 0.04%. Stain for 3 min at room temperature (staining time may be moderately extended, but should not exceed 10 min).
3. Transfer a small aliquot of the stained cell suspension to a hemocytometer for counting under a microscope. Dead cells appear blue, swollen, and dull, whereas live cells remain unstained, maintain normal morphology, and appear refractile and bright.
4. Cell viability is calculated as follows:
   Cell viability (%) = [Number of live cells / (Number of live cells + Number of dead cells)] × 100%

Notes

1. This product is only used for scientific research or further research, not for diagnosis and treatment.
2. Prolonged staining should be avoided, as live cells may gradually take up the dye over time, leading to inaccurate viability assessment.

3. For reliable quantification, a minimum of 500 cells should be counted per sample.
4. Trypan Blue is a potential carcinogen. Appropriate personal protective equipment, including a lab coat and disposable gloves, should be worn during handling.
5. Upon prolonged storage, a small amount of particulate precipitate may form. If observed, the solution should be incubated in a 37°C water bath for approximately 10 min to ensure complete dissolution before use.

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