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## Trypan blue and Turk solution

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## Abstract

### Trypan Blue test

Trypan is test used as a stain to selectively colour dead cells. Live cells or tissues with intact cell membranes are not coloured. Since cells are very selective in the compounds that pass through the membrane, in a viable cell trypan blue is not absorbed; however, it traverses the membrane in a dead cell. Hence, dead cells appear as a distinctive blue colour under a microscope. Since live cells are excluded from staining, this staining method is also described as a dye exclusion method. Trypan is test used as a stain to selectively colour dead cells. Live cells or tissues with intact cell membranes are not coloured. Since cells are very selective in the compounds that pass through the membrane, in a viable cell trypan blue is not absorbed; however, it traverses the membrane in a dead cell. Hence, dead cells appear as a distinctive blue colour under a microscope. Since live cells are excluded from staining, this staining method is also described as a dye exclusion method.

### Türk's solution

Türk's solution is a hematological stain (crystal violet or aqueous methylene blue) that destroys the membrane of red blood cells (RBCs), white blood cells (WBCs) and platelets and platelets within a blood sample, and stains the nuclei of the white blood cells, making them easier to see and count. Turk's solution is a gold standard for counting leukocytes in a defined volume of blood.



## Protocol



NAME

## Separation and purification of human PBMC from BUFFY COAT

CREATED BY

Elisa Storelli

**PREVIEW****Turk solution:**

Add 0.2 ml of Gentian Violet 1% + 0.3 ml of Acetic Acid 100 % to 0.950 ml of ultrapure water.

Work under chemical hood (Room TSO8).

Gentian Violet is in closet 1 (Room TSO8), Acetic Acid is in acid and basic cabinet (Room TSO8).

**Storage:**  4 °C **in the dark covered with aluminium foil.** Fridge 1- (Room TSO8).

**Acetic Acid 100%:** catalog number A6283, Sigma Italy.

**Gentian Violet 1%:** Marco Viti

**Trypan Blue solution 0.4 %:**

**Prepare a dilution at 0.2% (v/v):** 0.5 ml of Trypan Blue stock solution + 0.5 ml of sterile PBS.

Work under laminar flow hood (Room PSO3).

Trypan Blue solution 0.4 % is in poisons closet (Room TSO8).

**Storage:**  4 °C **in the dark covered with aluminium foil.** Fridge 1- (Room PSO3).

**Trypan Blue solution 0.4%:** catalog number T8154, Sigma Italy.

