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Trypan blue and Turk solution

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Marco Cosentino¹, Elisa Storelli¹, Alessandra Luini¹, Emanuela Rasini¹, Massimiliano LM Legnaro¹, Marco Ferrari¹, Franca Marino¹

¹Center for Research in Medical Pharmacology, University of Insubria (Varese, Italy)



Marco Ferrari

University of Insubria

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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 TS08).

Gentian Violet is in closet 1 (Room TS08), Acetic Acid is in acid and basic cabinet (Room TS08).

Storage:  4 °C **in the dark covered with aluminium foil.** Fridge 1- (Room TS08).

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 PS03).

Trypan Blue solution 0.4 % is in poisons closet (Room TS08).

Storage:  4 °C **in the dark covered with aluminium foil.** Fridge 1- (Room PS03).

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

