

The Application of the Frozen Erythrocytes in the Bloodstain Diagnostic

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A more exact, easier and safer laboratory process is possible using frozen red blood cells for the determination of the eluted antibodies in the routine work of forensic serology laboratories.

A greater quantity of red blood cells with known antigen properties can be saved frozen for longer time.

The cells are from the Blood Transfusion Service where all of the donors are tested for AIDS and Hepatitis B, so the risk of the laboratory infections can be lowered.

The activity and specificity of frozen cells is the same as for the fresh cells.

Requirements for the indicator red blood cells which are to detect the eluted antibodies in routine forensic serological laboratories:

- known antigenicity /antigen-properties/
- donors have to be screened for AIDS and Hepatitis B /to protect the laboratory personnels/.

Easy to work with a serie of red blood cells, in which different samples contain different antigens, and the same "standard" can be used for a longer time.

For this reason a quantity of red blood cells with known antigen properties is distributed to small samples and saved frozen for future tests.

In such a way collected and frozen test cell panel can be used to detect the eluted antibodies of: /against/
ABO, Rh/Cc, D, Ee/, M, N, S, s, Le^a, Le^b, Fy^a, Fy^b systems.

The freezing of the red blood cells:
ACD or CPD stabilised cells are mixed with the freezing solution in 1:1 volume.

The freezing solution:

Sodium citrate x 2H ₂ O	30,0 g
Sodium dihydrogenphosphate x 2H ₂ O	3,1 g
Disodiumhydrogenphosphate x 2H ₂ O	2,8 g
solved in aqua destillata	
/destillated water/	600,0 ml
add glicerine	400,0 ml

