

About the using of the vertical spectrophotometry for studying the level of the CD4-expression on T-lymphocytes of human blood.

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The vertical spectrophotometry is widely used in biological and medical studies firstly for densitometration of different biological electrophoresis data. Late it is started to apply for registration of immunological results obtained by antigen-antibody immunoelectrophoresis.

By this assay we have studied the change of the expressional level of membrane-bound CD4-markers of native and modified T-lymphocytes from human blood. γ -interferon was used for modification T-cells. Lymphocytes were obtained from heparinized donor's blood by sedimentation assay with density gradient of ficoll-urographine (1.077 g/sm^3). Differentiation of cells on subpopulations was made by Terasaki assay. For modifications of T-cells we used γ -interferon ("Protein contour", St.-Petersburg) in concentrations from 0.01 up to 100 IU/ml during 24 hours and 37 °C in the RPMI-1640 medium. Identification of CD4 expression level was carried out by using monoclonal mouse antibodies LT4 ("Sorbent", Moscow) and conjugate of sheep antibodies for mouse IgG with radish peroxidase ("Sorbent", Moscow). Results were obtained by using vertical photometer "Uniplane" ("Picon", Moscow).

The expressional level of CD4-receptors on membrane surface of native T-lymphocytes was 0.352 ± 0.018 . Cells incubation with cytokine in concentrations of 0.01-1 IU/ml led to increase IEA-signal up to 0.443 ± 0.017 , 0.430 ± 0.021 and 0.399 ± 0.012 accordingly. The increase of interferon concentration up to 100 IU/ml decreased the values of optical density to 0.317 ± 0.020 , but with using 10 IU/ml concentration of modifier it was no significant differences from control level.

Thus we have estimated that γ -interferon in concentrations from 0.01 to 1 IU/ml provides stimulative effect on the CD4 expression of T-lymphocytes from human blood.