

Epstein-Barr Virus (EBV) Receptors, Complement Receptors, and EBV Infectibility of Different Lymphocyte Fractions of Human Peripheral Blood

I. Complement Receptor Distribution and Complement Binding by Separated Lymphocyte Subpopulations

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Human peripheral lymphocytes were fractionated into a variety of B-, T-, and O-cell fractions and were characterized with regard to several surface receptors. There was a strong correlation between the frequency of EAC receptor-positive cells and the percentage of complement membrane fluorescence (CMF)-stained cells following exposure to fresh human serum and subsequent staining with an anti-C3 conjugate. CMF staining did not diminish in C4-deficient or hypogammaglobulinemic serum, or in the presence of EDTA or EGTA-Mg²⁺, but was completely negative with C3-depleted normal human serum. In all likelihood, the staining is therefore due to the direct binding of C3 to preformed receptors on the lymphocyte surface. In addition to the surface Ig-positive B-cell fractions, C3 receptors were also detected on part of the O-cell population and on a proportion of the Fc receptor-positive T cells.