

Cross – Reactivity of the V3-Specific Antibodies with the Human C1q

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It has been previously shown that the sequence similarity between a portion of the envelope glycoprotein 120 (gp120) from the human immunodeficiency virus type-1 (HIV-1) and several types of human collagen and collagen-like molecules exists. That observation led to the suggestion that the antibodies against the third hypervariable region (V3) of HIV-1 gp120 (V3-specific antibodies) might have a role in the autoimmune phenomena observed in HIV-infected persons. In this study we have examined the cross-reactivity of the V3-specific antibodies purified from sera of HIV-infected individuals, sera obtained from the rheumatoid arthritis and systemic lupus erythematosus patients, as well as from the sera of healthy volunteers with the separate chains of a subcomponent of the first component of the human complement system, C1q. Our results show that the V3-specific antibodies are present in the sera of the HIV-infected individuals, patients suffering of the systemic autoimmune diseases as well as in the sera of healthy volunteers. Whereas these antibodies appeared in the HIV⁺-sera after antigen challenge, those present in the HIV⁻- sera probably represent the antibodies that are cross-reactive with the antigen. V3-reactive antibodies can be purified by affinity chromatography and they were highly specific for the V3-peptide. Additionally, they showed cross-reactivity with the separate chains of the human C1q as well as with the chicken collagen type VI. Possible physiological implications are discussed.