

B₂GPI ENHANCES IgG ANTI-PHOSPHATIDYLSERINE (aPS) BINDING BETTER THAN ANTICARDIOLIPIN (aCL) ANTIBODIES. Kristina J. Keedy and Luis R. Lopez. REAADS Medical Products, Inc. Westminster, Colorado 80234, USA.

Antiphospholipid (aPL) antibodies are a heterogeneous group of autoantibodies and their optimal binding to the antigen may require the presence of a serum cofactor. Enhanced antibody binding activity (cofactor effect) by B₂GPI has been described in "autoimmune" aPL antibodies. We studied the B₂GPI cofactor effect of IgG aCL and aPS antibodies in 25 serum samples from patients with various diseases including SLE. Eight additional samples from patients with syphilis and 4 from healthy individuals served as controls. 96microwell plates were coated with CL or PS in the absence of B₂GPI. Serum samples were tested at 3 two-fold dilutions (starting at 1/50) made in PBS containing 10% BSA/Casein (99.5% pure, free of B₂GP). Purified human B₂GPI (15 ug/ml) was added to the sample diluent to test for cofactor effect. The resulting ODs (450nm) were compared against those obtained in the absence of B₂GPI. In the presence of B₂GPI, an increase of >20% in ODs in all 3 dilutions was considered positive. Our results showed that both aCL negative healthy controls and aCL positive syphilis samples had no cofactor effect. In fact, all these samples had lower ODs with B₂GPI which were further decreased with increasing concentrations of B₂GPI. All aCL positive syphilis samples (ODs >2.0) showed low reactivity similar to healthy controls when tested for aPS antibodies. Six of 25 (24%) diseased serum samples showed positive cofactor effect (up to 220%) when tested for aPS antibodies in the presence of human B₂GPI. Only one sample showed B₂GPI enhanced binding for both aCL and aPS antibodies. Four of these 6 cofactor positive samples were from SLE patients. In summary, this procedure proved useful to assess the presence of cofactor (B₂GPI) dependent IgG aPL antibodies in a given sample. In the population studied, most of the positive cofactor effect was seen in SLE sera when tested for IgG aPS antibodies. These results further support the clinical relevance of measuring aPS antibodies.

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