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Abstract

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Studies on HBsAg binding with polymerised human serum albumin by ELISA.

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Abstract

A simple and sensitive ELISA was developed to characterize the interaction between polymerised human serum albumin (pHSA) and HBsAg, using pHSA-coated polyvinylmicrotitre plates as solid phase and anti-HBs-coupled HRPO as the conjugate. The interaction was found to be specific and dependent on the size of albumin polymer. pHSA-binding activity (pHSA-BA) was studied in both HBsAg-negative and HBsAg-positive sera from various liver diseases including acute viral hepatitis, fulminant hepatitis, cirrhosis of liver, chronic active hepatitis, and healthy HBsAg carriers. pHSA-BA was detected only in HBsAg-positive sera. Analysis of HBsAg-positive sera indicated pHSA-BA in high proportions of patients sera as compared to sera from healthy HBsAg carriers. pHSA-BA was detected both in the presence and absence of HBe markers, though the mean BA was relatively high in presence of HBeAg. The effect of human serum immunoglobulins (IgG, IgA, and IgM) on the BA was investigated and a correlation between pHSA-BA and HBsAg-IgM complex positivity in sera was established. Finally, the probable role of human serum IgM in facilitating the binding process was discussed.

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