• 計畫中文名稱	應用嗜菌體展出系統來生產對人類具專一性的 B 型肝炎病毒抗體及其變異區基因使用的研究		
• 計畫英文名稱	Generation and Characterization of Human Hepatitis B Virus Specific Antibodies Using Phage Display System and Studies of Their Variable Region Gene Usage		
• 系統編號	PG8912-0210	• 研究性質	應用研究
• 計畫編號	DOH89-DC-1019	• 研究方式	委託研究
• 主管機關	行政院衛生署	• 研究期間	8809 ~ 8912
• 執行機構	台北醫學院		
• 年度	89 年	• 研究經費	350 千元
• 研究領域	基礎醫學類, 生物技術		
• 研究人員	楊沂淵		
• 中文關鍵字	B 型肝炎病毒； B 型肝炎免疫球蛋白(HBIG)；嗜菌體展出系統		
• 英文關鍵字	Hepatitis B virus；Hepatitis B immune globulin (HBIG)；Phage display system		
• 中文摘要	查無中文摘要		
• 英文摘要	Both passive and active vaccination are presently used for individuals who are anti-HBsAg negative. Immune globulin (IG) is prepared by cold ethanol fractionation of pooled plasma obtained from donors whose blood is negative for HBsAg. However, the levels of anti-HBs in IG are not standardized and vary from lot to lot. Hepatitis B immune globulin (HBIG) is prepared from plasma obtained from selected donors who have high titer of anti-HBs antibodies. Passive immunization with HBIG is recommended for postexposure prophylaxis under the following circumstances: (1) accidental percutaneous or mucous membrane exposure to HBsAg-positive serum, (2) sexual exposure to an HBsAg-positive partners, and (3) perinatal exposure of an infant born to an HBsAg-positive mother. Since the potential contamination of many deadly infectious agents is a great concern in the preparation of HBIG, the genetically engineered immunoglobulins provide an alternative for HBV postexposure treatment. The development of hybridoma technologies is a significant landmark in the production of homogeneous antibodies. However, many difficulties associated with their production, affinity, specificity, and use in vivo have ultimately limited their application to research or to in vitro diagnostics. Since we are primarily interested in the mechanisms of immune-mediated viral clearance and the development of both active and passive vaccines for the prevention of HBV infection, we propose to apply a phage display system for the production of human specific anti-HBV antibodies. These generated antibodies will be examined for their ability in the prevention of HBV spread in the future. The specific aims of this study are: The 1st year: (1) Amplification of the entire human heavy (H) and light (L) chain variable (V) region gene repertoire using polymerase chain reaction (2) Cloning and expression of a repertoire of Fab fragments on the surface of VSCM13 phage (3) Enrichment of a panel of recombinant phages with HBV-s pecific binding activity The 2nd year: (1) Characterization of the obtained Fab fragments using a competitive inhibition assay (2) Determination of the nucleotide sequences of various (V) regions utilized by the heavy and light chain genes of the isolated monospecific Fab		

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