

A NEW PROCESS OF *Haemophilus influenzae* CONJUGATE VACCINE: SYNTHESIS, IMMUNOGENICITY AND STABILITY TESTS.

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Haemophilus influenzae type b (Hib) is an encapsulated bacterium, which causes meningitis in infants. The prevention against encapsulated bacteria infection is achieved by polysaccharide – protein conjugated vaccine. We obtained a conjugate Hib polysaccharide and tetanus toxoid using a new conjugation method, hydrazone method, which resulted in 25% on yield. This method is based on 3 singles steps: PS oxidation, PS derivatization with ADH and conjugation with tetanus toxoid in the presence of EDAC. The immunogenicity of this conjugate was evaluated by ELISA in the sera of vaccinated guinea pigs and the titer was compared with the commercial vaccine Hiberix®. After 3 doses, the conjugate group achieved a titer around 1:7500 while the Hiberix group 1:8200 and PS group 1:2500. Our results indicated that the conjugate vaccine is able to induce immunological memory antibodies in animals as well as the Hiberix vaccine. The stability of the conjugate was also tested by performing an accelerated stability test with lyophilized conjugate and Hiberix® maintained for 5 weeks at -20°C, 4°C, 25°C, 37°C and 50°C and analyzed by HPLC. The conjugate was not stable at 37°C and 50°C although samples maintained at -20°C and 25°C showed the same HPLC profile than the control group.

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