

## **ABSTRACT:**

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**Titel.** The Posintro™ a new generation of Iscoms in combination with Hepatitis B antigen.

**Introduction:** The Posintro™ is a new generation of Iscoms (immune stimulatory complexes). The Posintro™, combined with Hepatitis B surface antigen, is an adjuvant system that can induce both a humoral and a cellular immune response with induction of both the MHC class II and I pathways. This ability to induce a strong cellular response is needed for clearance of intracellular pathogens, which is not met by the common used adjuvant Aluminum.

**Materials and methods:** NMRI mice or Guinea Pigs were immunized parenteral with Hepatitis surface antigen in the combination of different adjuvant system. The adjuvant systems used were Posintro™, QS-21 (a saponin fraction), MF59 (produced in our lab), aluminum phosphate (in the commercial Twinrix®) and MPL (in the commercial vaccine Fendrix®). The antibody titer in serum and the specific B-cell activation, by ELISPOT, were measured. The cellular response was measured by CTL assays and DTH reaction.

**Results:** The Posintro™ combined with hepatitis induced both a strong cellular response with strong CTL response and DTH reaction. In comparison between the different adjuvant systems the Posintro induced the strongest humoral response with highest amount of activated ag-specific B-cells and highest titer of the IgG isotype IgG2a (a Th1 induced isotype).

**Discussion:** These results indicate that the novel experimental vaccine formulated with the adjuvant Posintro™ and HBsAg is strongly immunogenic and may promote protection against Hepatitis B infection.