# Saponin-Based Adjuvants and Immunomodulatory Agent

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**Experience:**

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https://scholars.lib.ntu.edu.tw/cris/rp/rp06464

**Market Needs:** To develop a safer and more potent human-used vaccines, the addition of immunomodulatory adjuvants to vaccines has dominated today's vaccine formulation. Adjuvant can reduce antigen dose, improve immunoprotection and also reduce the number of administration. In 2017, US FDA approved the first natural-saponin adjuvanted shingle vaccine (Singrix®, GSK). The same saponin adjuvant system has also been applied to malaria vaccine in a phase III clinical trail. In addition, dozens of vaccine interventions with natural saponin adjuvant has been applied in phase I/II clinical trials. Therefore, vaccine manufacturers have a great demand on natural saponin adjuvants; however, natural-derived saponins are limited by its low-yielding purification process and dose limited toxicity. To this end, the synthetic saponin analogues of the present application contains strong cellular immunity enhancing ability, less toxicity and are applicable for mass production.

**Our Technology:** The synthetic saponin analogues of the present application can induce robust antigen-specific cellular immunity in mice immunization model with lower toxicity. These result indicated that the synthetic saponin analogues of the present application can be applied to prophylactic or therapeutic vaccines.

**Strength:** The synthetic saponin analogues of the present application contains strong cellular immunity enhancing ability, less toxicity and are applicable for mass production.

**Competing Products:** Natural-derived saponin adjuvants.

**Intellectual Properties:**

(1) Patent pending.
(2) The research team has over ten years of research experience in the fields of pharmacy, chemistry, cell biology and immunology.

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