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(54) Title: AQUEOUS IMMUNOLOGIC ADJUVANT COMPOSITIONS OF MONOPHOSPHORYL LIPID A

(57) Abstract

An aqueous adjuvant composition comprising an attenuated lipid A derivative and a surfactant or surfactants enhances the immunological response in a warm blooded animal to a protein antigen. Attenuated lipid A derivatives useful according to the subject invention include monophosphoryl lipid A and 3–O–deacylated monophosphoryl lipid A. A surfactant or mixtures of surfactants are dissolved in a solvant. 1,2–Dipalmitoyl–sn–glycero–3–phosphocholine is a preferred surfactant. The dissolved surfactant is added to an attenuated lipid A derivative to obtain a mixture. The molar ratio of attenuated lipid A derivative to surfactant in the mixture is about 4:1. The solvent is evaporated and water is added to the resulting film. The suspension is sonicated in a 60 °C water bath until it becomes clear. Animals administered the adjuvant formulation exhibited increased antibody responses to a given antigen as well as displayed enhanced lymphocyte proliferative and cytotoxic T–lymphocyte responses. Intranasal administration of the aqueous adjuvant composition and an antigen stimulates the production of serum and mucosal secreted IgA.