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Vaccines with the MF59 Adjuvant Do Not Stimulate Antibody Responses against Squalene

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Squalene is a naturally occurring oil which has been used in the development of vaccine adjuvants, such as the oil-in-water emulsion MF59. In past years, by use of noncontrolled and nonvalidated assays, a claim was made that antisqualene antibodies were detectable in the sera of individuals with the so-called Gulf War syndrome. Using a validated enzyme-linked immunosorbent assay for the quantitation of immunoglobulin G (IgG) and IgM antibodies against squalene, we demonstrated that antisqualene antibodies are frequently detectable at very low titers in the sera of subjects who were never immunized with vaccines containing squalene. More importantly, vaccination with a subunit influenza vaccine with the MF59 adjuvant neither induced antisqualene antibodies nor enhanced preexisting antisqualene antibody titers. In conclusion, antisqualene antibodies are not increased by immunization with vaccines with the MF59 adjuvant. These data extend the safety profile of the MF59 emulsion adjuvant.

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