# Immunogenic "subunit" of the ICRC antileprosy vaccine.

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International Journal of Leprosy and Other Mycobacterial Diseases : Official Organ of the International Leprosy Association, 01 Mar 1988, 56(1):27-35
PMID: 3131465

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## Abstract

The administration of a vaccine containing ICRC bacilli, which is currently undergoing clinical trials in India, induces persistent lepromin conversion in lepromatous leprosy (LL) patients and lepromin-negative healthy subjects, with "upgrading" of tissue response in the former. A sonicate of ICRC bacilli, when subjected to gel-filtration chromatography using high-pressure liquid chromatography (HPLC), yields a high molecular weight glycolipoprotein (PP-I) with an apparent molecular weight of 10(6) daltons. PP-I, which brings about lepromin conversion in lepromin-negative healthy subjects, is a major immunogen of the organism, and carries epitopes for both B and T cells. A similar high molecular weight glycolipoprotein (PP-I Mycobacterium leprae) has been isolated from the sonicate of M. leprae. The two PP-I fractions exhibit a close antigenic relatedness at both B- and T-cell levels. However, they differ in their chemical composition and carry different charges. PP-I of ICRC is not only a good immunogen. Its high lipid content provides the necessary built-in adjuvant that would make it a good candidate for a "subunit" antileprosy vaccine. Also, since it carries epitopes for both B and T cells, PP-I ICRC could be used for "molecular engineering" to obtain molecules which selectively stimulate T-cell immunity which is the dominant host defense against M. leprae.

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