

# Immunological Contraception: Can Gonadotropins still be considered viable candidates for anti-fertility vaccines?

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For nearly half a century, investigators have been exploring the immunogenicity of vaccines aimed at eliciting an immune response against the gonadotropins hCG, LH and FSH, and also against gonadotropin-releasing hormone. Only a small number of clinical trials have been carried out with such vaccines with the aim of controlling fertility. More recently, vaccines employing these hormone antigens have also undergone clinical trials as anti-tumor agents. Initial concerns in relation to the use of such vaccines as contraceptives included their safety, potential for abuse, and the fact that their effect on fecundity might prove irreversible. Extensive experimentation in animal models, a small number of human clinical trials, and the passage of time has yielded reassuring vaccines becoming available for routine use in humans still seems remote despite the proven efficacy of this approach. The development of these vaccines will be outlined, the current status of the field reviewed, the future prospects for gonadotropin-based contraceptive vaccines outlined, and important lessons for the field of anti-tumor vaccines emphasised.