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# Immune Response Enhanced by DNA Priming followed by Proteinic Form of Vaccine

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**Introduction**:

Immunization against human chorionic gonadotropin (hCG) prevents pregnancy in sexually active women of proven fertility, as shown by previous Phase II efficacy trials. In order to make the vaccine consistent in its linkage to the carrier, we developed a recombinant vaccine linking hCGβ to LTB, B subunit of heat labile enterotoxin of E.coli which isa potent mucosal adjuvant. The hCGβ-LTB vaccine was fairly immunogenic in mice of different genetic strains.Since a vaccine for control of fertility should ideally be effective in every recipient and be potent enough to generate above protective threshold antibody titres to prevent pregnancy, it was decided to investigate if prime-boost approach employing a combination of anti-hCG DNA and protein vaccines, can enhance the immune response.

**Methodology:**

hCGβ-LTB protein vaccine was made and purified using yeast Pichia pastoris pPIC9k/GS115 host-vector system.DNA version of the vaccine was prepared by incorporating the gene encodinghCGβ-LTB in eukaryotic plasmid VR1020(DJ).Mycobacterium indicuspranii (MIP)was used as an immuno-modulator. Female inbred Balb C mice received 100 µg of DNA vaccine in saline along with 5x106 cells of MIP/animal/dose route twice fortnightly followed by 2 µg of alum adsorbed hCGβ-LTB along with 5x106 cells of MIP by intramuscular route. Second group of mice was immunized by only protein version of the vaccine along with MIP.

**Results and Conclusions:**

Immunization with the DNA form of the recombinant hCGβ-LTB vaccine twice at fortnightly interval followed by the proteinic form of the vaccine induced distinctly higher antibody response than the proteinic vaccine alone.DNA is not only cheaper to make, it is thermostable and does not require cold chain. Hence the employment of DNA for primary immunization is expected to reduce the cost besides the benefitof enhancing antibody response

**Biography:**

Dr. Kripa N. Nand is currently working at Talwar Research Foundation, India. His research interest is based on Rec. protein expression in prokaryotes & eukaryotes, purification of recombinant protein, Molecular Biological Techniques, Cell Culture, Animal handling & immunization, Bioreactor, Immunology Techniques, Prostate Cancer. He has published many articles in reputed journals.