



CLINICAL APPLICATIONS OF DNA VACCINES

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Abstract

DNA vaccines are third generation vaccines. They contain DNA that codes for specific proteins (antigens) from a pathogen. The DNA is injected into the body and taken up by cells, whose normal metabolic processes synthesize proteins based on the genetic code in the plasmid that they have taken up. DNA vaccines are third generation vaccines. They contain DNA that codes for specific proteins (antigens) from a pathogen. The DNA is injected into the body and taken up by cells, whose normal metabolic processes synthesize proteins based on the genetic code in the plasmid that they have taken up. DNA plasmid vector vaccines carry the genetic information encoding an antigen, allowing the antigen to be produced inside of a host cell, leading to a cell-mediated immune response via the MHC I pathway. The plasmid DNA vaccine (above) carries the genetic code for a piece of pathogen or tumor antigen. The hepatitis B and the human papillomavirus (HPV) vaccines are made this way. The vaccine is composed of a protein that resides on the surface of the virus. This strategy can be used when an immune response to one part of the virus (or bacteria) is responsible for protection against disease. Vaccines are made by taking viruses or bacteria and weakening them so that they can't reproduce (or replicate) themselves very well or so that they can't replicate at all. Children given vaccines are exposed to enough of the virus or bacteria to develop immunity, but not enough to make them sick.

Biography

Prof. Dr. Anil Batta is presently professor & Head with senior consultant in Govt. Medical College, Amritsar. He did his M.B.B.S. and M.D. in Medical Biochemistry from Govt. Medical College, Patiala in 1984 and 1991, respectively. His research interest is mainly in clinical application especially cancer and drug de-addiction. He has supervised more than 25 M.D., M.Sc. and Doctorate research and published more than 130 international research papers. He is the chief editor of America's Journal of Biochemistry. He is also working as advisor to the editorial board of International Journal of Biological and Medical Research. He has been deputed member Editorial Board of numerous International & National Medical Journals of Biochemistry. He has also been attached as technical advisor to various national and international conferences in Biochemistry. He has been attached as hi-tech endocrinal, genetics and automated labs of Baba Farid Univ. of Health Sciences, Faridkot. He has chaired various sessions in the Biochemistry meets. He has been designated as member Editorial Board of various in US and other European Countries. He is also involved in various research projects at Govt. Medical, Amritsar. He has done super specialisation in Drug-de-addiction from PGIMER, Chandigarh.

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