New technologies for improved vaccines against infectious diseases and cancer

Vaccines are without a doubt the most successful of mankind’s medical interventions. However, despite more than two centuries of effective use of vaccines, many substantial challenges remain. These include: 1) Improvement of existing but suboptimal vaccines (e.g., tuberculosis, influenza), 2) discovery and development of new vaccines against targets to address large unmet medical needs (e.g., HIV, malaria, cancer), and 3) rapidly responding to new pathogens (e.g., newly emerging microbes, bioweapons). Recent advancements have demonstrated proof of concept for active immunization in the treatment of cancers. Taking full advantage will require the application of new technologies and paradigms in the areas of tumor antigen identification and optimization, novel potent and safe adjuvants, and enhanced vaccine delivery systems.

Biography

Jeffrey B Ulmer received his BSc with Honors from the Department of Chemistry at the University of Regina in 1978 and was the recipient of the Merit Award of the Society of Chemical Industry of Canada. He received his PhD in Biochemistry from McGill University in 1985 and completed his Postdoctoral training in the laboratory of Nobel laureate Dr. George Palade in the Department of Cell Biology at Yale University School of Medicine. At Merck Research Laboratories and Chiron Corporation he conducted seminal studies on DNA vaccines, and novel vaccine adjuvants and delivery systems. He has published over 190 scientific articles, is on the editorial boards of Expert Opinion on Biological Therapy and Human Vaccines, and serves on several external advisory boards. He is currently Global Head of External Research at Novartis Vaccines & Diagnostics, responsible for identification and assessment of new opportunities for collaborative research.