

Plant virus nanoparticles: New applications for developing countries

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For over two decades now, plants have been explored for their potential to act as production platforms for biopharmaceuticals, such as vaccines and monoclonal antibodies. Without a doubt, the development of plant viruses as expression vectors for pharmaceutical production have played an integral role in the emergence of plants as inexpensive and facile systems for the generation of therapeutic proteins. More recently, plant viruses have been designed as non-toxic nanoparticles which can target a variety of cancers and thus empower the immune system to slow or even reverse tumor progression. The following presentation describes the employment of plant virus expression vectors for the treatment of some of the most challenging diseases known today. The presentation concludes with a projection of the multiple avenues by which virus nanoparticles could impact developing countries.

Biography:

Kathleen Hefferon received her PhD from the Department of Medical Biophysics, University of Toronto. She worked as a postdoc, then received a faculty position at the Departments of Nutritional Sciences and Food Sciences at Cornell University. Kathleen is also a visiting faculty member at the University of Toronto, where she teaches virology. Kathleen has four patents and has written and edited six books. Kathleen is currently the co-editor of the Encyclopedia of Food Security and Sustainability. Her research interests include viruses, vaccines, infectious disease, cancer, global public health and food/energy security.