

GEN reports on the promise of DNA vaccines

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Laboratory research and clinical studies are beginning to demonstrate that DNA vaccines can be as effective as traditional vaccines, reports Genetic Engineering & Biotechnology News (GEN). A number of factors are driving the growth of the field, especially new approaches to electroporation, vaccine formulation, and vector design, according to the April 15 issue of GEN.

"A lot of development is focused on the creation of DNA vaccines for humans," says John Sterling, Editor in Chief of GEN. "Many of the advances being made are due to the introduction of new technologies and improvements in older methodologies."

For example, scientists at the Karolinska Institute and Tripep are working on a therapeutic vaccine for hepatitis C virus. A major impediment to successful DNA vaccination has been the failure to achieve sufficient uptake of the DNA by host tissue. This roadblock caused the collapse of a number of clinical trials a decade ago. The problems have now been resolved through improvements in transfection techniques, specifically electroporation. Inovio Biomedical, in particular, has aggressively pursued development of a minimally invasive electroporation device.

In addition, Althea Technologies has developed a high cell density fermentation and purification process for plasmid DNA products that reportedly provides plasmid yields in the range of 100-2,000 mg/L depending on plasmid size and bacterial strain. The company offers services in plasmid design and production, and possesses core

capabilities in biological process development.

Also discussed in the GEN article is DNA vaccine-related work being carried out at BIA Separations, Nature Technology, the Walter Reed Army Research Institute, and VGXI.

More information:

<http://www.genengnews.com/articles/chitem.aspx?aid=3247>

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