

Celeros APD Centrifuge

Separations

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Celebrating 30 Years of Excellence

GEN Genetic Engineering & Biotechnology News

Biotechnology from bench to business

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Global Transfection Market Value (U.S. \$millions)

2010 \$220

2016 \$350

OMICS Drug Discovery Translational Medicine Bioprocessing Biobusiness

Tackling DNA Vaccine Production

Plasmid Purification Issues Do Not Get the Same Attention that Delivery Obstacles Do, But They Remain Problematic Nonetheless

K. John Marrow Jr., Ph.D.

Delivery, delivery, delivery is the major focus of DNA vaccine research, according to David Weiner, Ph.D., University of Pennsylvania professor and also chair of the recent conference on "DNA Vaccines: Building on Clinical Progress and Exploring New Targets."

In his keynote address, Dr. Weiner reviewed the history of the field, detailing how trials of a DNA HIV vaccine dealt a huge blow to the field when it was observed that plasmids carrying five different HIV proteins failed to induce immunity when injected into patients. In the years since, the technology has advanced dramatically, and therapies currently under evaluation are demonstrating the superb potential of plasmid-based vaccines.

DNA vaccines represent a simple, elegant, and straightforward approach. They

See DNA Vaccines on page 42

Scientists at Althea Technologies are working to ensure that plasmid preparations are stable at room temperature. The firm has found that a combination of EDTA and ethanol has a synergistic enhancing effect on DNA stability.

Transfection Practices Change with Times

Transition facilitated by electroporation advances, new reagents, and more user-friendly platforms. p. 28

Evaluating Bioprocess Monitoring Options

NIR and Raman methods can offer advantages—if operators have sufficient

Live-Cell Imaging Finds Ideal Subject in Zebrafish

Sticky ends

Scientists at Althea Technologies using a Celeros APD Centrifuge for plasmid purification.

If your goal in a centrifugation step is to maximize product purity and yield, choose the versatile **Celeros APD centrifuge** which is setting new standards for harvesting and clarification.

Celeros Model APD bio-centrifuges have successfully been tested and approved for laboratory pilot and production scale operations in a variety of applications.

Microbial

- E coli (whole cell or lysate), Inclusion Body Washing & Recovery
- Lactobacillus
- Streptomyces (filamentous bacteria)
- Streptococcus pneumoniae
- Pseudomonas fluorescens

Fungal

- Aspergillus (filamentous fungi)
- Pichia Pastoris
- Saccharomyces cerevisiae

Insect Cell

- Baculovirus infected insect cell

Algae

- Harvesting and washing

Mammalian

- CHO (perfusion, fed batch) MAb recovery

Blood Proteins

- Plasma fractionation

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