

Determining cell count and viability of aggregated cells used for vaccine production

Introduction

PaxVax is a leading independent vaccine company, headquartered in Redwood City, California, devoted to developing and commercializing specialty vaccines that protect against existing and emerging infectious diseases, producing effective tools for health care providers serving the 100 million people who travel each year to countries where these diseases are present. The company has achieved ground-breaking milestones, commercializing vaccines for typhoid fever (Vivotif®) and cholera (Vaxchora®), and has a robust pipeline of vaccines at various stages of preclinical and clinical development for adenovirus, hepatitis A, HIV, Zika and chikungunya.

User Commentary

"We have decided to use the NC-200™ for our development studies, clinical manufacturing and commercial manufacturing moving forward because it provides better cell counts than the competitors, primarily due to the aggregation that occurs with our HEK293 cell line. Cell count is one of the primary parameters that we will be measuring, especially for GMP production. Without an accurate cell count, our seeding and target cell densities could be off and affect the expansion of our cells."

Ghee Kim Associate Director, Engineering Process Development

Learn more about PaxVax at <https://paxvax.com/>

Challenges

PaxVax is currently working on a "first in class" chikungunya vaccine. The vaccine is a VLP produced from transfecting HEK293 cells using transient transfection. Not only will the product be first in class, but also the first in industry to perform transient transfection on large scale. Given this large scale use of HEK293 cells, it is important to be able to count the total number of cells being used for transient transfection precisely and accurately. HEK293 cells are generally difficult to count by conventional methods, due to the tendency for aggregates to form. PaxVax has implemented the NucleoCounter® NC-200™ in development and manufacturing processes to ensure precise and accurate cell counting and viability determination.



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