ABSTRACT

Many products that are currently in phase 1/II clinical trials have been manufactured using platforms such as the HEK293/Triple Transfection system. This platform is a reliable manufacturing system for rAAV production, but a more scalable process is required to support late stage clinical and commercial demands. The baculovirus/SF9 production system for rAAV has been shown to be a scalable system that can produce large quantities of high quality rAAV product. To bridge the materials between these two manufacturing systems, comparability must be established. We have compared two AAV2.AADC vectors produced using the Bac/SF9 and HEK/TTF system head-to-head using a suite of biochemical, biophysical, and bioassay methods.

Figure 1: AAV Manufacturing Process

In vitro
Sub
Residual Host Cell DNA

Figure 3: Protein Identification

Table 2: Comparison of Process-Specific Residues

Table 3: DLS Analysis

Table 4: In vivo Infectivity

Figure 5: In vivo AADC Expression

CONCLUSIONS

- Vectors produced using HEK293/TTF and Bac/SF9 were compared using analytical and bioanalytical methods
- Materials had comparable levels of empty particles and process-specific residuals
- Vectors had comparable infectivity and in vitro protein expression
- In vivo expression was compared for HEK293/TTF and Bac/SF9 materials
- Bac/SF9 material received FDA clearance for testing in humans

ACKNOWLEDGMENTS

We would like to acknowledge our colleagues and clients for their help in making this work possible.