

## **ACHIEVING PRODUCT QUALITY TARGETS WHILE MAINTAINING HIGH TITER IN CHO CELL CULTURE PROCESSES**

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Standard CHO cell culture processes provide the best foundation for producing a variety of therapeutic proteins with appropriate productivity and product quality (PQ). Molecule-specific considerations for PQ attributes such as charge variants can however necessitate deviations from standard processes. Whereas some strategies employed for modulating PQ may not be compatible with one another or not readily implementable at manufacturing scale, it is helpful to consider several process variations which aim to achieve acceptable PQ. During process development, we developed three processes with each providing a unique solution to achieving acceptable PQ attributes. Process A was derived via media optimization, Process B was derived by modulating process control levers, and Process C, still under investigation at this time, will be derived by changing cell lines. The results showed that each process was able to achieve acceptable PQ via: (1) Process A: modulating the trace metal and antioxidant content of culture medium; (2) Process B: utilized various temperature & pH shifts, and inoculation densities and a 15% increase in product titer; (3) Process C: data will be shared at the meeting. Furthermore, Process A & B significantly outperformed the control cultures. Altogether, these results provide a roadmap for developing a process which balances acceptable PQ without significantly impacting productivity and in some cases yields increased productivity.