

SCREENING OF CHEMICALLY DEFINED BASAL AND FEED MEDIA FORMULATIONS FOR IgM PRODUCTION

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During early-stage process development, an essential aspect of upstream process development involves screening commercially available media formulations to obtain desired cell growth, productivity, and product quality attributes. In this study, we want to present our strategy and results for screening media for IgM production. IgM antibodies are large pentameric or hexameric macro-immunoglobulins with 10 or 12 antigen binding domains and traditionally have been difficult to express. A set of commercially available basal media were screened for adaptability of the cell line in the new formulations. Post-adaptation in the new basal media, production was performed based on the platform-fed batch process. Vendor feedback was considered during the designing of how to pair basal and feed formulations and feeding strategies for the fed-batch process. Cell growth, productivity, and metabolites were monitored during the production, and samples were routinely collected for spent media analysis and product quality attributes. Based on the results lead and backup formulations were identified. These formulations were tested across multiple cell lines to develop a platform process.