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An overexploitation approach for cell culture based modular bioprocessing

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In the battle of controlling healthcare costs, the high cost pharmaceuticals, especially biologics has become an important issue. Successful production planning requires consideration of cost factors such as manufacturing cost, capital investment to build new facilities or to retrofit existing ones, as well as the inventory costs. The cost attributed to the opportunity lost in selling the product or failure to meet market demand is also considered as the inventory cost. Any unplanned downtime could severely affect the customer service level, if facility utilization is too high. Underutilization of manufacturing facilities conversely suggests a misplaced investment in capacity. The overexploitation approach was designed to mitigate the above described facility constrains due to its power of combining the benefits of perfusion and fed batch processing mode with adequate elimination of facility constrains of fed-batch bioprocessing was done. The key factors considered are: adapting to modular single use technologies for facility design; smallest mall footprint for upstream processing saves initial investment, significantly; multiproduct facilities to be designed capable of offering production output in kilograms per month; completely avoiding the use of conventional stainless steel bioreactors and culture revived from single low-passage cell bank can be expanded for several months without compromising the product quality. With continuous processing advantage while adapting an overexploitation approach, the cultured cells can be processed up to 60 passages, typically.

Biography

Ravindra Patel is an Inventor, Founder and CEO of OmniBRx Biotechnologies Pvt. Ltd. He has invented the DBR technology (Patent Pending) for ADC range of single-use bioreactors, the first in-class SUB's offering very efficient high density cell culture in small culture volume. He holds >10 years of enriched experience in the field of Bio-processing and Biotechnology research. He is pursuing his PhD in Biotechnology from DYPU, Mumbai. He did his Master's in Biotechnology from Sardar Patel University, Gujarat

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