METHOD FOR MEMBRANE GAS TRANSFER IN HIGH DENSITY BIOREACTOR CULTURE

Abstract

The present invention provides improved bioprocessing systems and methods for cell culture using the improved bioreactors, e.g., batch-fed or perfusion bioreactor cell culture systems for production of monoclonal or bi-specific antibodies, which are modified to include one or more membrane gas transfer modules in place of a sparger- or microsparger-based aeration systems to better regulate the levels of critical gases in a bioreactor cell culture, e.g., the dissolved levels of O_2 and CO_2, even at high cell densities, without subjecting the cells to bubble-burst associated cell death.

[FIG. 1D]