

P006 A novel approach for high throughput screening and isolation of antibody-secreting cell lines

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Mammalian cells are the preferred system for production of protein therapeutics. Although the scale-up process has seen dramatic recent improvements, the discovery of new candidate cell lines remains protracted and expensive. A new technology has been developed that in a single step screens thousands of cell clones for specific protein/monoclonal antibody expression and quantitatively collects only the best secretors. The technology is fluorescence-based but does not require the target cells to produce fluorescence. The process offers a powerful alternative to current procedures such as limiting dilution and cell sorting, which are laborious and prone to error. Each analysis results in a small number of high value, high viability (greater than 99%) clonal populations that can be expanded rapidly for further assay or processing. A typical timescale of 60 days for generating new candidate clones can be reduced to less than 14 days. The technology is compatible with a wide range of host cells including hybridoma fusions, transfected myelomas, CHO-S, adherent CHO and HEK, as well as stem cell lines (AB2.2 and E14). The technology has been validated by major pharmaceutical companies.