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(54) **Title**: METHOD OF PRODUCING A POLYPEPTIDE OR VIRUS OF INTEREST IN A CONTINUOUS CELL CULTURE

(57) **Abstract**: Described herein is a chemostat-like continuous cell culture system that combines certain advantages of perfusion open systems and chemostat open systems to improve the culturing of mammalian cells, e.g., genetically modified cells, particularly in serum-free or chemically-defined media. The continuous culture system described herein involves culturing mammalian cells in a continuous cell culture system, which comprises a cell retention device, wherein the cell culture system has a dilution rate (D) of less than about 2 d^{-1}, and a cell density of less than about $2X10^7$ cell/mL. Also described herein is a method for producing a polypeptide and/or virus of interest in a continuous cell culture, the method comprising culturing mammalian cells expressing the polypeptide and/or virus of interest in a continuous cell culture system, which comprises a cell retention device, wherein the cell culture system has a dilution rate (D) of less than about 2 d^{-1}, and a cell density of less than about $2X10^7$ cell/mL; and recovering the polypeptide and/or virus of interest from medium of the cell culture system.