

CLAIMS

1. A method of concentration of a liquid comprising a biomolecule which comprises passing the liquid through a tangential flow filtration device under pressure, wherein the pressure applied is cycled between at least a higher pressure and a lower pressure.
2. A method according to claim 1, wherein the method is carried out in-line.
3. A method according to claim 1 or 2, wherein pressure is applied by means of a pump, and the pressure is varied by operation of a variable flow valve.
4. A method according to claim 3, wherein the variable flow valve is an intermittent flow valve.
5. A method according to any preceding claim, wherein two different pressures are employed, the higher pressure being employed for up to 99.9%, and preferably from 85 to 99%, of the time of application of the pressure.
6. A method according to any preceding claim, wherein at least 10 cycles are employed.
7. A method according to any preceding claim, wherein a cycle frequency of less than 100Hz, and preferably less than 5Hz, is employed.
8. A method according to claim 7, wherein the cycle frequency is from 0.05 to 0.5Hz.
9. A method according to any preceding claim, wherein two different pressures are employed, and the higher pressure is at least 1.05 fold greater than the lower pressure, and preferably from at least 1.1 to 2.0 fold greater than the lower pressure.
10. Apparatus for in-line concentration of a biomolecule-containing liquid comprising a tangential flow filtration device in fluid connection with a means for imparting flow of the liquid through the tangential flow filtration device and a variable flow valve, wherein the means for imparting flow is located upstream of the filtration device, the variable flow valve is located downstream of the tangential flow filtration device, and the variable flow valve is controlled to cycle between at least a higher pressure and a lower pressure.

11. Apparatus according to claim 10, wherein the means for imparting flow comprises a pump.
12. A process for the concentration of a biomolecule in a liquid wherein the biomolecule is concentrated by the use of apparatus according to either of claims 10 or 11 and the tangential flow filtration device is under pressure, the pressure applied being cycled between a higher pressure and a lower pressure.
13. A process according to claim 12, wherein two different pressures are employed, the higher pressure being employed for up to 99.9%, and preferably from 85 to 99%, of the time of application of the pressure.
14. A process for the production of a biomolecule, preferably a recombinant polypeptide, which comprises concentration of a liquid comprising the biomolecule by a method according to any one of claims 1 to 9.