ABSTRACT

MICROCARRIERS FOR STEM CELL CULTURE

We disclose a particle comprising a matrix coated thereon and having a positive charge, the particle being of a size to allow aggregation of primate or human stem cells attached thereto. The particle may comprise a substantially elongate, cylindrical or rod shaped particle having a longest dimension of between 50μm and 400μm, such as about 200μm. It may have a cross sectional dimension of between 20μm and 30μm. The particle may comprise a substantially compact or spherical shaped particle having a size of between about 20μm and about 120μm, for example about 65μm. We also disclose a method of propagating primate or human stem cells, the method comprising: providing first and second primate or human stem cells attached to first and second respective particles, allowing the first primate or human stem cell to contact the second primate or human stem cell to form an aggregate of cells and culturing the aggregate to propagate the primate or human stem cells for at least one passage. A method of propagating human embryonic stem cells (hESCs) in long term suspension culture using microcarriers coated in Matrigel or hyaluronic acid is also disclosed. We also disclose a method for differentiating stem cells.

Figure 1