

RECENT DEVELOPMENT OF MICROCARRIER FOR CELL CULTURE ENGINEERING

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Chapter 9

The Vero Cells Growth in Different Type of Microcarriers

*Yusilawati Ahmad Nor, Nurul Hafizah Sulong, Maizirwan Mel,
Hamzah Mohd Salleh, Iis Sopyan*

1. Introduction

Vero cell line was derived from the kidney of a normal, adult, African green monkey (*Cercopithecus*) (Sheet, 2000). Vero cells have been extensively used for producing viral vaccines (Trabelsi et al., 2005; Rourou et al., 2007; Kistner et al., 2007) and for evaluating the performance of animal cell in bioreactors with modified condition (Huang et al., 2006). This cell line also has been used extensively for virus replication studies and plaque assays (Sheet, 2000). Moreover, Vero cells do not disturb human health when used as substrate for biological product since they are free from oncogenic property (Trabelsi et al., 2005; Horaud, 1992). However, Vero cells are anchorage dependent cells which required solid substrate to attach and grow. Thus, Vero cells can be used in microcarrier and suspension cultures for large scale production in bioreactors. The interaction between the cells and the substrate surface is critical where cell adhesion occurs by divalent cation and basic protein which occur between the solid surface and the cell membrane (Butler, 1996). Under proper conditions, cells attach and spread onto the carriers and