

RECENT DEVELOPMENT OF MICROCARRIER FOR CELL CULTURE ENGINEERING

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Chapter 2

Ultraviolet/Ozone Treatment for Polystyrene Beads Modification and Its Effect on Gelatin Coating

Yusilawati Ahmad Nor, Maizirwan Mel, Iis Sopyan, Hamzah Moh Salleh, Ng Kim Hooi, Wong C.S

1. Introduction

Gelatin is particularly important for engineering cell-surface properties because it is one of the most commonly occurring proteins in the human body and one that plays a central role in the formation of extracellular matrix with which cells have extensive communication (Mao *et al.*, 2003; Kang *et al.*, 1999). Depositing gelatin onto the surface of solid substrates is a useful technology to modify the surface properties of *in vitro* cell culture scaffolds, presenting a suitable adhesion signal for many cell types (Mengyan *et al.*, 2005). Immobilization of gelatin means gelatin is physically confined or localized in a certain defined region of space with retention of their catalytic activities, which can be used repeatedly and continuously (Chibata, 1979). Thus it allows gelatin to be held in the core throughout the reaction, following which they can be easily separated from cells which is considered to be reusable and more efficient.