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Chapter 11

The Growth Rate and Viability of DF1 Cell in Different Culture Media

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1. Introduction

Animal cell culture is the most important tool in the study of animal cell structure, function and differentiation. It is also important for the production of many biologicals such as vaccines, enzymes, hormones, antibodies, interferons and nucleic acids. Most animal cells are anchorage-dependent and require attachment to a surface for their survival and replication (Adams, 1980). To improve the viability of any cell line for a targeted product formation, careful selection of an optimized media as well as other growth parameters are inevitable. Normally, the viability of a cell line increases upon the increase of duration time, but accumulation of toxic metabolic products such as lactate and ammonium, viable cell concentration drops after the stationary phase (Mel et al; 2008). Doubling time is an essential parameter in cell viability. Generally, the doubling time of mammalian cells varies between 10 and 50 hours, and cell concentration reaches its peak value within 3-5 days.

DF-1, named after the founder, Douglas Foster is a spontaneously immortalized continuous cell line of chicken embryo fibroblast