
49 Effects of Phospholipids on Skin

Use of Primary Human Keratinocytes and Fibroblasts as 2D Cell Culture Models

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49.1 CORE MESSAGE

Human primary keratinocytes and fibroblasts are classic 2D cell culture models that are highly useful for the assessment of the skin compatibility of cosmetic and pharmaceutical formulation compounds. The skin compatibility of phospholipid-based nanoemulsions was investigated using different cytotoxicity assays. Agreement between results of the different tests was good; the overall cell viability of both keratinocytes and fibroblasts was far higher for the tested lecithin-based formulations than for the control stabilized by sodium dodecyl sulfate. The effect of the formulations on wound healing can be investigated by scratch assays using human primary fibroblasts. First results indicate suitable properties of phospholipid-based formulations.

49.2 INTRODUCTION

Phospholipids are known to be versatile surface-active agents that can be used for the production of a range of cosmetic or pharmaceutical formulations. Among others, vesicular systems, submicron-sized emulsions, lipid nanoparticles, or lyotropic liquid crystalline mesophases (*microemulsions*) can be produced using different derivatives of phosphatidylcholine [1–5].