



Original article

Nanoliposome Encapsulation with Donkey Milk Bioactive Proteins and Its Possible Application in Dermatology and Cosmetics

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SUMMARY

Nanoliposomes represent natural or synthetic nanoparticles made of phospholipids, which may spontaneously aggregate in an aqueous medium. Their use in dermatology and for cosmetic purposes may offer facilitated delivery in skin via enhanced opening of the tight junctions between the epithelial cell monolayers. As far as their use in dermatology is concerned, both transdermal and local application may offer successful release profile. Donkey milk may have special therapeutic properties when used in cosmetology for skin treatment.

The aim of our study was to establish encapsulation efficacy of nanoliposome loaded with skimmed donkey milk and to explore the efficiency of encapsulation of different skimmed donkey milk concentrations in nanoliposomes.

In our experimental study, it was documented that 1%, 2% and 5% solutions of skimmed donkey milk were almost equally effectively encapsulated, more than 80% in 1% solution of nanoliposomes, while 10% solution of skimmed donkey milk was encapsulated more efficiently, with 88.9% in 1% of nanoliposome solution. Encapsulation can lead to greater efficiency by enabling the use of lower administration doses and preventing the corresponding side effects, which may be the result of higher doses. Skimmed donkey milk is a suitable encapsulation solution.

Key words: nanoliposomes, donkey milk, encapsulation efficacy

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