Hinokitiol-loaded lipid nanoparticles for dermal delivery

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The aim of this study was to evaluate lipid nanoparticles as the topical carrier for dermal delivery of Hinokitiol(HKL). The melt-homogenization was employed to prepare HKL-loaded lipid nanoparticles(HKL-LN). The HKL-LN size was determined by electrophoretic light scattering spectrophotometer. The HKL-LN has low average size between 30 and 200nm. EF-TEM(energy filtering transmission electron microscopy) image showed that the HKL-LN has a spherical shape. The HKL-LN was applied onto the skin of hairless mouse in the Franz diffusion cell. The permeation of the HKL that incorporated in lipid nanoparticles was 10-fold higher than that HKL and propylene glycol mixture. These results revealed that the HKL-LN may be a prospective carrier for dermal delivery of HKL.