[PE1-8] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Electrically Assisted Topical Delivery of Ascorbyl Palmitate

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Ascorbyl palmitate(AsP), a prodrug of ascorbic acid(AsA), was encapsulated in liposome. Negatively charged MLV liposomes containing AsP were prepared with dimyristoylphosphatydilcholine and dicetyl phosphate, and dispersed to poloxamer gel matrix. Characterizations of liposome, such as size, surface charges and drug encapsulation ratio, were evaluated and the properties of dermal drug delivery of liposomal formulations under passive or electrically assisted conditions were compared. In the passive skin penetration study, flux(㎍/㎠/hr) of AsP(J_{AsP}) and produced AsA(J_{AsA}) by skin esterase were calculated as 12.40±0.23 and 2.30±0.25, respectively. Amount of AsP accumulated to the skin during penetration after 1 hr was 2.49±0.62 ㎍/㎠. J_{AsP} was increased more than two times by cathodal iontophoresis (0.4mA current) compared to the passive conditions. On the other hand, in vitro hydrolysis of AsP in rats skin homogenates was observed. AsP hydrolyzed to AsA according to the first-order kinetics with the rate constant of 2.46×10^{-2} min^{-1} and half-life of 28.14min. Conclusively, liposome promoted AsP permeation into the skin efficiently due to its lipophilic nature and AsA can be produced from penetrated AsP by the cleavage action of skin esterase. Moreover, liposomal formulation and electrical assistances are considered as a good supplemental remedy for enhancing dermal delivery of AsP.

[PE1-9] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

FITC Albumin degradation and release from PLGA microsphere

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Biodegradable poly(D,L-lactide-co-glycolide)(PLGA) microspheres containing FITC albumin were elaborated by solvent evaporation method based on the formation of double W/O/W emulsion. In virtro matrix degradation and protein release of these microspheres were performed in phosphate-buffered saline(PBS)(0.15M,ph7.4). The degradation profiles were characterized by scanning electron microscope (SEM).The release profiles were investigated the release characteristics of FITC-albumin.It was showed that FITC-albumin release profiles were dependent on the polymeric microsphere degradation. The initial burst release of FITC-albumin was increased with the increased loading contents of it in the microspheres.It is suggested that these microsphere can be optimized as carriers of protein delivery system for different purpose.

[PE1-10] [10/19/2001 (Fri) 09:00 - 12:00 / Hall D]

Phonophoretic Delivery of Triamcinolone acetonide Gel

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Triamcinolone acetonide (TA) is one of the corticosteroid, it is used in the systemic and topical