



Effect of Different Coagels of 6-O-Ascorbic Acid Alkanoates on Permeation of Ibuprofen Through Hairless Mouse Skin

Verónica SAINO ¹, Patrizia CHETONI ¹, Santiago PALMA ² & Daniel ALLEMANDI ^{2*}

¹ *Dipartimento di Chimica Bioorganica e Farmacia, Università di Pisa, V. Bonnano 33, Pisa, Italia.*

² *Departamento de Farmacia, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba, Córdoba. 5000. Argentina*

SUMMARY. The purpose of the present investigation was to evaluate 6-O-palmitoyl ascorbic acid (ASC16) and 6-O-lauril ascorbic acid (ASC12) for their capacity to promote permeation of Ibuprofen (IBU) through hairless mouse skin *in vitro*. The permeation of Arfen[®] (IBU 10% P/P, commercial product), IBU solution (0.85% P/P, pH 7.4, 66.7 mM phosphate buffer: Isopropyl alcohol; 80:20) and IBU (0.85% P/P) vehiculized in ASCn coagels (5% w/v) were measured and comparatively analyzed. Although IBU release from the formulation was faster in the case of Arfen[®] in comparison to ASCn coagel, the permeation of IBU was significantly increased when the drug was vehiculized in these systems, being ASC₁₂ the most effective as enhancer. This result demonstrated the potential usefulness of the lamellar liquid crystalline system obtained from ASCn auto-aggregation for topical administration of drugs.

KEY WORDS: Ibuprofen, Liquid crystals, Skin permeation.

* Author to whom the correspondence should be addressed. *E-mail:* dalemand@fcq.unc.edu.ar