OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Pharmaceutics & Novel Drug Delivery Systems
April 08-10, 2013 Hilton Chicago/Northbrook, USA

Topical photodynamic therapy using transferosomal Aluminum phthalocyanine tetrasulfonate: *In vitro* and *in vivo* study

Maha Fadel, Doaa Abd El Fadeel and Kawser Kassab
Cairo University, Egypt

The efficacy of transferosomes (flexible liposomes) as a novel technique for topical delivery of the hydrophilic tetra-anionic photodynamic sensitizer aluminium (III) phthlocyanine tetrasulfonate (AlPcS4) was investigated, on mammalian fibroblasts and on Balb/c mice dorsal skin. AlPcS4 was loaded in transferosomes composed of phosphatidylcholine : sodium deoxycholate (5:1, 10:1 and 15:1 w/w, ratios), resulting in 110,160 and 200 nm mean size vesicles with encapsulation efficiencies of 16%, 25% and 30%, respectively. In vitro studies on BHK-21 fibroblasts revealed two fold enhancement of the photocytotoxicity of AlPcS4 loaded in transferosomes (Trans-AlPcS4), compared to free AlPcS4 dissolved in culture medium. The phototocytoxicity of Tran-AlPcS4 was less dependent on the incubation time with cells, compared to free-AlPcS4. Topical application on dorsal skin of balb/c mice revealed that both free-AlPcS4 and Trans-AlPcS4, exhibited evident photosensitizion towards mice skin, but acquiring different regions of skin.