



Journal of Controlled Release Vol. 242, 2016

Contents

Dermal Drug Delivery by Nanocarriers

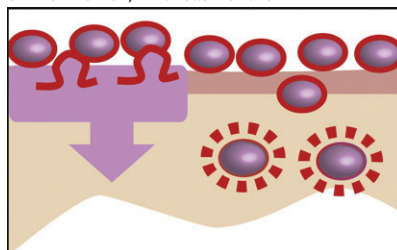
Christian Wischke, Eckart Rühl, Andreas Lendlein

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Nanocarriers for drug delivery into and through the skin – Do existing technologies match clinical challenges?

Annika Vogt, Christian Wischke, Axel T. Neffe, Nan Ma, Ulrike Alexiev, Andreas Lendlein*

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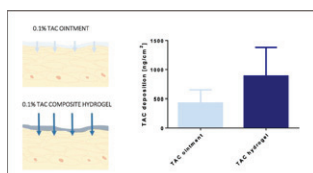


Improved topical delivery of tacrolimus: A novel composite hydrogel formulation for the treatment of psoriasis

Doris Gabriel*, Thibault Mugnier, Herve Courthion, Ksanthi Kranidioti, Niki Karagianni, Maria C. Denis, Maria Lapteva, Yogeshvar Kalia, Michael Möller, Robert Gurny

pp 16–24

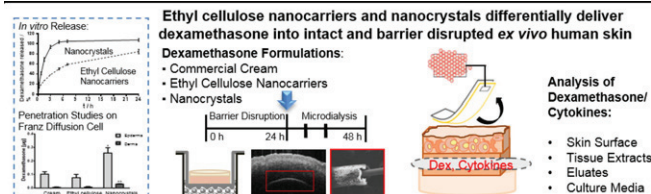
TAC composite hydrogel delivers more tacrolimus into the skin than the corresponding ointment formulation. Easy application and absence of greasy formulation residues on the skin, could furthermore improve patient compliance.



Ethyl cellulose nanocarriers and nanocrystals differentially deliver dexamethasone into intact, tape-stripped or sodium lauryl sulfate-exposed *ex vivo* human skin - assessment by intradermal microdialysis and extraction from the different skin layers

pp 25–34

Nadine Döge, Stefan Hönzke, Fabian Schumacher, Benjamin Balzus, Miriam Colombo, Sabrina Hadam, Fiorenza Rancan, Ulrike Blume-Peytavi, Monika Schäfer-Korting, Anke Schindler, Eckart Rühl, Per Stahl Skov, Martin K. Church, Sarah Hedtrich, Burkhard Kleuser, Roland Bodmeier, Annika Vogt *

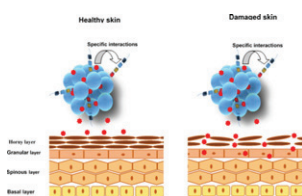


Intradermal drug delivery by nanogel-peptide conjugates; specific and efficient transport of temoporfin

pp 35–41

Fatemeh Zabihi, Sebastian Wieczorek, Mathias Dimde, Sarah Hedtrich, Hans G. Börner *, Rainer Haag *

Peptides that show specific interactions with *m*-THPC as identified by combinatorial means have been conjugated to nanogel particles. The implemented peptide functionalities dramatically improve the specific loading of *m*-THPC and enhance skin penetration of the photosensitizer in a barrier deficient skin model.

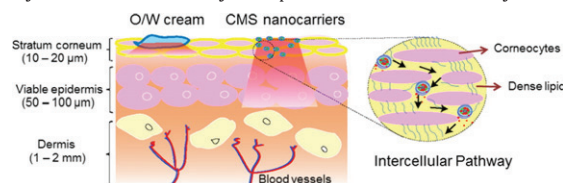


Development of biodegradable hyperbranched core-multishell nanocarriers for efficient topical drug delivery

pp 42–49

Fang Du, Stefan Hönzke, Falko Neumann, Juliane Keilitz, Wei Chen, Nan Ma, Sarah Hedtrich, Rainer Haag *

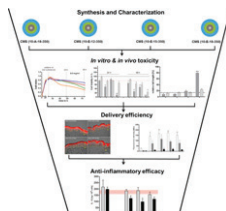
Compared to o/w cream formulation, up to 7 times higher amount of cargo can be transported by CMS into skin by interacting with intercellular skin lipids. Afterwards, the cargo can be released and penetrate into viable skin layers while CMS itself stays at superficial stratum corneum layer of skin.



Tailored dendritic core-multishell nanocarriers for efficient dermal drug delivery: A systematic top-down approach from synthesis to preclinical testing

pp 50–63

Stefan Hönzke, Christian Gerecke, Anja Elpelt, Nan Zhang, Michael Unbehauen, Vivian Kral, Emanuel Fleige, Florian Paulus, Rainer Haag, Monika Schäfer-Korting, Burkhard Kleuser, Sarah Hedtrich *



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