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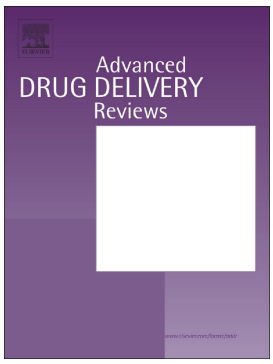

Co association of mucus modulating agents and nanoparticles for mucosal drug delivery

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PII: S0169-409X(18)30001-2
DOI: https://doi.org/10.1016/j.addr.2018.01.001
Reference: ADR 13238

To appear in: *Advanced Drug Delivery Reviews*

Received date: 1 June 2017
Revised date: 26 November 2017
Accepted date: 2 January 2018

Please cite this article as: Catherine Taylor Nordgård, Kurt I. Draget , Co association of mucus modulating agents and nanoparticles for mucosal drug delivery. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Adr(2018), https://doi.org/10.1016/j.addr.2018.01.001

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Co association of mucus modulating agents and nanoparticles for mucosal drug delivery

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Abstract

Nanoparticulate drug delivery systems (nDDS) offer a variety of options when it comes to routes of administration. One possible path is crossing mucosal barriers, such as in the airways and in the GI tract, for systemic distribution or local treatment. The main challenge with this administration route is that the size and surface properties of the nanoparticles, as opposed to small molecular drugs, very often results in mucosal capture, immobilization and removal, which in turn results in a very low bioavailability. Strategies to overcome this challenge do exist, like surface 'stealth' modification with PEG. Here we review an alternative or supplemental strategy, co-association of mucus modulating agents with the nDDS to improve bioavailability, where the nDDS may be surface modified or unmodified. This contribution presents some examples on how possible co-association systems may be achieved, using currently marketed mucolytic drugs, alternative formulations or novel agents.

Keywords

mucus; mucolytic; drug delivery

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