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Controlled Drug Release with Drug Delivery System (20120102, Dr. Chun Wang)

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Technology ID
20120102

Category
Life Sciences/Biologics
Life Sciences/Pharmaceuticals
Life Sciences/Therapeutics

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Biocompatible Drug Delivery System for Controlled Drug Release

The biocompatible, polymer-based drug delivery system with a controllable drug release rate can improve patient compliance. The polymer chemistry involved in the synthesis of the material allows for easy tuning of drug release to suit different application requirements. The new material is semi-solid and can be easily included in topical creams or injections by simple mixing. The drug delivery system is capable of loading a wide range of drugs either hydrophobic or hydrophilic, including small molecule drugs and macromolecule drugs. The polymer and its byproducts are biocompatible.

MN-IP Try and Buy

This technology is available via a standard negotiated license agreement. Contact Kevin Anderson for specific details.

Drug Delivery Affects Patient Compliance

A drug delivery system that requires fewer treatments can improve patient compliance. Many treatments of acute to chronic diseases require multiple injections to be administered to maintain drug levels. Patient compliance is difficult to achieve if the patient has to return to the clinic multiple times or has to administer injections at home. Polymers with controlled drug release could be a solution to this treatment hurdle. If these treatments can be given in a single injection that lasts days to weeks, the success rate of the treatment will increase.

Benefits Of Drug Delivery System With Controlled Drug Release:

- Can be included in minimally invasive injections and topical applications
- Hydrophobic and hydrophilic drugs
- Fragile small molecule drugs
- Macromolecules such as proteins, peptides, and nucleic acids
- Can modify the release of new or known drugs
- Drug release rates can be changed depending on desired response
- Material and its byproducts are biocompatible

Researchers

Chun Wang, Ph.D.
Dr. Wang's research interests include polymers for gene delivery, drug delivery and polymers as synthetic stem cell niches for tissue repair and regeneration.
External Link (bme.umn.edu)