

3M Proves Capability of Systemic Delivery with Solid Microstructured Transdermal System

3M Drug Delivery Systems today announces that it has successfully designed a proof of concept device utilizing a solid microstructured transdermal system (sMTS) for the systemic delivery of high potency pharmaceuticals. The technology was showcased yesterday in a poster session at the annual meeting of the Controlled Release Society in New York. The presenter, John K. Simons PhD, Microstructured Transdermal Project Manager at 3M, explained the promising *in vivo* data including depth of penetration, timed release, and demonstration of systemic delivery.

Most notable in the research findings, delivery of naloxone via an sMTS patch was found to be comparable to a subcutaneous injection with regard to bioavailability and pharmacokinetic (PK) profile. Additionally, time release data showed that the dosage was delivered very quickly after the patch was placed on the skin, with the majority of the initial array content delivered within 30 seconds. This data, coupled with the systemic delivery studies, confirms that efficient systemic delivery is possible with coated microstructures.

"These studies demonstrate that our sMTS technology can quickly and effectively deliver molecules not typically compatible with traditional transdermal technologies into the bloodstream. The sMTS provides delivery that combines the ease and convenience of a transdermal patch with the speed and efficiency of a subcutaneous injection," said Dr. Simons.

This data demonstrates the systemic delivery capabilities of 3M's sMTS technology, previously used for vaccine delivery. It is well established that microstructures can penetrate the stratum corneum with minimal patient discomfort, and provide a delivery route for drugs typically available only via injection. This new application expands the range of active pharmaceutical ingredients that can be delivered transdermally.

"This technology will help pharmaceutical providers differentiate their products with a minimally invasive and more comfortable self-administration method," said Dr. Simons. "3M Drug Delivery Systems leveraged core 3M technologies in microstructured materials and processes to offer our partners this exciting new capability."

For more information or to receive a copy of the poster, please contact 3M Drug Delivery Systems at 1-800-643-8086.

About 3M Microstructured Transdermal System

3M Microstructured Transdermal System (MTS) is a state-of-the-art system for transcutaneous or intra-dermal drug delivery. MTS bypasses the barrier properties of the stratum corneum and provides a means to deliver a wide variety of molecules that ordinarily would not penetrate the skin.

About 3M Health Care

3M Health Care, one of 3M's six major business segments, provides world-class innovative products and services to help health care professionals improve the practice, delivery and outcome of patient care in medical, oral care, drug delivery and health information markets.

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