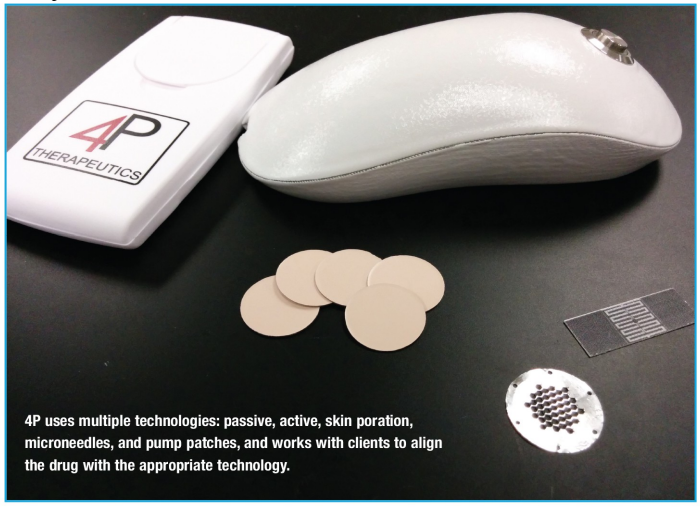
Drug Development & Delivery

SPECIAL FEATURE - Patients & Physicians Desire Transdermal, Topical & Subcutaneous Delivery

APPLYING NEW TECHNOLOGY TO EXISTING THERAPEUTICS

4P develops patches to deliver large molecules, biologics and difficult-to-deliver small molecules. The company is also developing simple, passive, and still commercially valuable transdermal products.

“We are seeing trends toward simpler transdermal products that have commercial value but may not be a major advancement in clinical outcome,” says Steven P. Damon, President & CEO of 4P Therapeutics. “Rethinking what is already available in terms of technology and applying it to the appropriate therapeutic can lead to valuable product opportunities. Taking an older transdermal therapeutic product and reformulating slightly using some of the advancement in chemistry that we have made can produce a better generic and potentially some new IP.”



4P uses multiple technologies: passive, active, skin poration, microneedles, and pump patches, and works with clients to align the drug with the appropriate technology.

Mr. Damon continues: “In addition, we can take a basic patch technology that uses one or a few needles and a liquid reservoir with a driving force (mechanical, electronic or even chemical) to deliver the therapeutic and potentially create a new transdermal product that replaces an IV and keeps a patient out of the hospital.”

4P uses multiple technologies: passive, active, skin poration, microneedles, and pump patches, and works with clients to align the drug with the appropriate technology. This involves a series of preclinical studies with several technologies. The patient, provider, and payer are all considered, along with the therapeutic indication. Then, clinical studies commence with what has been determined to be the best transdermal product for the indication in terms of clinical success and commercial success.

4P Therapeutics has entered into multiple partnerships with companies, ranging from a global healthcare conglomerate to small biotech companies and academic institutions. In the case of specialty pharma Medicure International, Inc., the partnership with Medicure initially focused on developing a transdermal patch for Aggrastat® (tirofiban HCl injection for intravenoususe), Medicure’s lead product currently marketed for the treatment of acute coronary syndrome. 4P Therapeutics initially partnered with Medicure to demonstrate the preclinical feasibility of delivering tirofiban transdermally as an alternative to its current IV delivery. After successfully completing the feasibility studies, 4P Therapeutics and Medicure entered into a product development and commercialization partnership. This approach allowed Medicure to assess the preclinical feasibility of delivering tirofiban transdermally and offered the flexibility to generate valuable data before entering into a broader partnership with 4P Therapeutics and committing additional resources to the project.

“This development program presents an important lifecycle management strategy for Aggrastat. Drugs in the Glycoprotein IIb/IIIa inhibitor class (GPI), including tirofiban, are currently only available for IV delivery,” explains Mr. Damon. “Transdermal delivery of a GPI promises to offer several benefits over IV delivery, including ease of administration using a transdermal patch that can potentially be self-administered, possible reduce in hospital length-of-stay to lower healthcare costs, and the potential for new indications that could lead to additional market penetration.”

4P Therapeutics and Medicure demonstrated *in vivo* proof-of-concept for transdermal tirofiban delivery. The development program is now focusing on refining the transdermal tirofiban delivery system in preparation for initial human studies.