DuPont Nutrition & Health Advancements in Novel Excipients Recognized by Pharmaceutical Journal

Latest research explores using novel excipients to protect against agitation induced aggregation of protein based pharmaceuticals


The research examines the fundamental dynamics of FM1000, a novel surfactant excipient able to more rapidly stabilize than conventional excipients. The researchers found the excipient delivered improved performance in liquid stabilization of protein biologics, providing a mechanistic understanding of the key causes and drivers of protein aggregation. DuPont’s findings could improve biologic drug stability in liquid formulations, and the new surfactant could introduce better shelf-stability of antibody-derived biopharmaceuticals.

“This work highlights the importance of using fundamental science to understand pharmaceutical and pharmaceutical ingredient behavior,” said lead researcher Joshua Katz, Ph.D., Research Scientist, DuPont Pharma Excipients. “It’s imperative we utilize that knowledge to design and build next generation technologies for 21st century medicine.”

The research is slated to appear in a future issue of Molecular Pharmaceutics, a peer-reviewed pharmaceutical journal that covers research on the molecular mechanistic understanding of drug delivery and drug delivery systems. In 2017, the journal had a total of 15,754 citations and an impact factor of 4.5. The digital version of the published paper can be found on Molecular Pharmaceutics’ website.

Katz, who joined Dow Chemical's Core R&D Formulation Science group in 2011, focuses his research on the development of novel technologies for formulation of non-small molecule pharmaceuticals and biopharmaceutical formulations. Prior to joining Dow, he received his undergraduate degree in chemistry from MIT and a Ph.D. in bioengineering from the University of Pennsylvania.

“My passion and commitment as a scientist includes leveraging a strong scientific foundation to engineer the products of tomorrow in order to cultivate a healthier planet,” Katz explained.

Katz partnered with colleagues who contributed their insights and research to the published paper. The full team includes Abigail Nolin, R&D Technologist; Benjamin Yezer, Senior Engineer; and Susan Jordan, Fellow.

“I’m really proud of the diverse team that came together to accomplish this work,” Katz said. “Everyone brought unique skills and perspectives: Abi’s technical skill, Ben’s deep knowledge and passion for fundamental concepts, Sue’s drive to link insights back to customer needs and challenges. All are necessary in realizing research that is not only academically interesting but also valuable to our customers.”

To learn more about DuPont’s portfolio of high-quality, high-performance pharmaceutical and healthcare
technologies, visit www.pharma.dupont.com.

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DuPont Nutrition & Health, a DowDuPont Specialty Products Division business, combines in-depth knowledge of food and nutrition with current research and expert science to deliver unmatched value to the food, beverage, pharmaceutical and dietary supplement industries. We are innovative solvers, drawing on deep consumer insights and a broad product portfolio to help our customers turn challenges into high-value business opportunities. More information is available at www.food.dupont.com.

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