Thomas D. Madden, Ph.D. – Biography

President & CEO of Acuitas Therapeutics, Dr. Thomas D. Madden is a world-renowned expert in the area of nanotechnology. Dr. Madden co-founded Acuitas Therapeutics in February 2009 and has guided the company into its position as a global leader through the development and application of lipid nanoparticle (LNP) technology. Acuitas Therapeutics partners with leading pharmaceutical and biotechnology companies and prestigious academic institutions around the world, providing its proprietary LNP delivery technology to enable new drugs based on nucleic acid therapeutics.

Recent achievements include the use of its LNP delivery system in the Pfizer/BioNTech COVID-19 vaccine COMIRNATY® that is being administered around the world. This success resulted in the recently announced partnership with Pfizer that enables the American multinational pharmaceutical company to use Acuitas Therapeutics' LNP technology for up to 10 targets for vaccine or therapeutic development. Under Dr. Madden's leadership, the team continues their work with partners to address serious illness and diseases such as HIV/AIDS, cancer, tuberculosis, malaria and more.

Dr. Madden obtained his BSc. and Ph.D. in Biochemistry from the University of London, U.K. He has held several senior academic and industry positions including Assistant Professor in Pharmacology at the University of British Columbia and Senior Director, Technology Development and Licensing at Tekmira Pharmaceuticals.

At Tekmira Pharmaceuticals, Dr. Madden was responsible for the development of several liposomal anticancer agents including Marqibo™ (liposomal vincristine), Alocrest™ (liposomal vinorelbine) and Brakiva™ (liposomal vinorelbine). All of these products were subsequently licensed to Talon Therapeutics.

Dr. Madden headed the team that developed the cationic lipid MC3 and the LNP carrier used by Alnylam Pharmaceuticals for Onpattro™. Onpattro™ was approved in 2018 in the U.S. and Europe for the treatment of transthyretin amyloidosis, a rare condition characterized by an abnormal buildup of a protein called amyloid in the body's organs and tissues. Onpattro™ is the first in a new class of drugs, called RNAi therapeutics, to receive regulatory approval.

While Dr. Madden is internationally respected for his professional expertise and achievements, he has also earned a reputation for his collaborative approach. He credits the success of Acuitas Therapeutics and its exceptional standing on the world stage to the team's commitment to excellence and the company's culture of cooperation, both internally and externally.

Dr. Madden has over 60 publications in peer-reviewed journals relating to LNP technology and the development of pharmaceutical products, including recent publications in *Nature*. In 2020, Dr. Madden was made a Fellow of the American Institute for Medical and Biological Engineering (AIMBE) in recognition of his contributions to the field of nucleic acid delivery.

Along with Acuitas Therapeutics' co-founders (Drs. Pieter Cullis and Michael Hope), Dr. Madden was recognized by the 2022 Governor General's Innovation Award. They received this prestigious award for their work in developing LNP systems to deliver nucleic acid drugs.

Ying Tam, M.Sc., Ph.D. – Biography

Chief Scientific Officer of Acuitas Therapeutics, Dr. Ying K. Tam, is a globally respected expert in the areas of nanotechnology and immunology. Acuitas Therapeutics works with high-profile international partners, providing its delivery technology (lipid nanoparticles) to enable new drugs based on nucleic acid therapeutics. These partnerships include BioNTech (which partners with Pfizer), CureVac and Imperial College London, where the Acuitas delivery technology is required to develop effective messenger RNA (mRNA) vaccines for COVID-19. (To understand more about these partnerships, mRNA and lipid nanoparticles, please see the Acuitas Therapeutics backgrounder.)

Dr. Tam obtained his M.Sc. and Ph.D. in Developmental and Molecular Biology from the University of Waterloo in Waterloo, ON prior to his post-doctoral fellowship in cancer immunotherapy at the BC Cancer Agency in Vancouver, BC. He has held several academic positions including Instructor and Assistant Professor in the Department of Hematology/Oncology at Rush-Presbyterian-St. Luke's Medical Center in Chicago, IL, overseeing the translational stem cell transplant immunotherapy research program. Dr. Tam also serves as Adjunct Professor in the Department of Biochemistry and Molecular Biology at the University of British Columbia.

Dr. Tam's industry positions include Senior Scientist and Director of Preclinical Research at Tekmira Pharmaceuticals (formerly INEX Pharmaceuticals) and AlCana Technologies, respectively. At Tekmira Pharmaceuticals, Dr. Tam led a program developing a lipid nanoparticle (LNP), nucleic acid-based immunostimulatory drug. Subsequently, Dr. Tam was a founding scientist at Acuitas Therapeutics in February 2009 and helped the company to become a global leader in the application of LNP technology for the delivery of nucleic acid therapeutics. This includes the development of the LNP carriers used in Onpattro™ and COMIRNATY®. Onpattro™ was developed in partnership with Alnylam Pharmaceuticals and approved in 2018 in the U.S. and Europe for the treatment of transthyretin amyloidosis. This is a rare and fatal condition characterized by an abnormal buildup of a protein called amyloid in the body's organs and tissues. Onpattro™ represents the first RNA interference-based drug receiving regulatory approval for use in humans. Similarly, COMIRNATY®, developed in partnership with BioNTech and Pfizer and authorized in 2020, represents the first mRNA drug and the first COVID-19 vaccine receiving widespread authorization for human use.

Dr. Tam oversees the scientific program at Acuitas and has guided both internal research programs as well as external programs with partners and collaborators. Dr. Tam has authored more than 75 peer-reviewed studies, including several in high-impact journals such as *Nature* and *Nature Biotechnology*, and has contributed to grant applications to secure millions of dollars in grant funding.