



Washington Research

F O U N D A T I O N

Washington Research Foundation awards additional \$400,000 grant to University of Washington's Gabriele Varani, Ph.D., for microRNA therapeutics

Grant will further chemistry professor's work in the chemical modification of gene function

Seattle, Washington—September 9, 2020

Washington Research Foundation (WRF) today announced it has awarded an additional \$400,000 grant to Gabriele Varani, Ph.D., professor of chemistry at the University of Washington. The grant provides pivotal funding that will allow Varani to continue his work investigating the molecular basis of cancer and inflammatory disease, and developing potential new therapeutics. WRF provided earlier grants totaling \$230,000 to support these efforts.

Deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) are crucial to the existence of life. DNA contains genetic instructions for all living things, and cells use RNA for fundamental tasks, including making copies of DNA when forming new cells and building vital proteins for cell development and health. Recent research, however, has shown that RNA is a central player in other cellular functions, including gene expression, the process that converts instructions in our DNA into a functional product such as a protein. Mutations in RNA and the proteins that bind to RNA have been associated with viral infections and chronic diseases including cancers and neurodegenerative diseases such as dementia.

Varani's research centers on understanding how a specific type of RNA called microRNA changes the way proteins are synthesized in the body. A molecule called microRNA-21 appears to play a significant role in cancer: Not only does it appear as a biomarker, indicating a tumor, but it also may promote resistance to currently available treatments. If scientists can manage how RNA binds to various proteins and other RNAs in the body, they may be able to prevent tumors from spreading or develop new, genetics-based forms of treatment.

"We have new opportunities to treat human disease by working with RNA. If we were to find the right chemistry, we could open up an enormous new area of pharmacology and create a novel class of molecular targets allowing us to affect human health. For example, we could develop a new drug to treat cancer by manipulating the molecular mechanisms of RNA," said Varani. "This generous award from WRF can help us find new ways to treat many medical conditions we haven't been able to treat well before. I am very grateful for their continued support of our work."

"At WRF, our goal is to support the advancement of the most innovative academic research in Washington state towards commercialization, including at the University of Washington. In Dr. Varani's

work, we see the potential for future company formation and new treatments for a number of diseases,” said David Shoultz, Ph.D., director of the grants program at WRF.

WRF supports groundbreaking translational research in life sciences and enabling technologies to help grow Washington's innovation economy and to benefit the people of Washington state and beyond. The purpose of WRF's Technology Commercialization Grants is to move technologies towards the marketplace to create new value and address public needs. Phase 3 awardees such as Varani have a plan for commercialization of their technology and have achieved significant milestones with previous grants from WRF.

“We are very excited about Dr. Varani's longstanding work in RNA. He has made incredible progress in this promising area. His research could lead to developing a new drug candidate that would use the properties of a specific microRNA to treat cancer by manipulating intricate cellular mechanisms. The grants from WRF are a credit to his discoveries and an acknowledgement of what we can achieve with further understanding of complex biology of cancer,” said Will Canestaro, Ph.D., a managing director with the Foundation's investment arm, WRF Capital.

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About Washington Research Foundation

Washington Research Foundation (WRF) supports research and scholarship in Washington state, with a focus on life sciences and enabling technologies.

WRF was formed in 1981 to assist universities and other nonprofit research institutions in Washington with the commercialization and licensing of their technologies. WRF is one of the foremost technology transfer and grant-making organizations in the nation, having earned more than \$445 million in licensing revenue for the University of Washington and providing over \$108 million in grants to the state's research institutions to date.

WRF Capital, the Foundation's venture investment arm, has funded 105 local startups since 1994. Returns from these investments support grant-making activities at WRF.

For additional information, please visit www.wrfseattle.org.

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