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Contact:
Lynn DeGregorio
President & Founder
212-616-7755
lynn@degregorio.org



Research & Education for Stomach & Esophageal Cancer

Michael F. Price Memorial Grant from DeGregorio Family Foundation Awarded for New Gastroesophageal Cancer Therapy

NEW YORK, Feb. 6, 2025 – The DeGregorio Family Foundation with support from the Torrey Coast Foundation Gastro Esophageal Investigator Network Initiative (GEMINI) has awarded the \$125,000 to Timothy C. Wang, MD, Chief, Division of Digestive and Liver Diseases, Silberberg Professor of Medicine, Department of Medicine and Irving Cancer Research Center, Columbia University Irving Medical Center. The Grant is named in memory of Michael F. Price, the noted value investor and philanthropist, who was an early supporter of the DeGregorio Family Foundation. Depending on results, this grant funding could increase up to \$500,000.



Dr. Wang, who is an expert in the molecular mechanisms of carcinogenesis, hopes to accelerate a novel therapy – Modified Trefoil Factor Family 2 (TFF2-MSA) – into clinical use for gastroesophageal cancer.

He said, "We appreciate the support from the DeGregorio Family Foundation towards our studies on evaluating a novel therapy for gastroesophageal cancer and identifying biomarkers that will help identify patients most likely to benefit from this therapy."

Stomach cancer remains one of the leading causes of cancer-related deaths worldwide with over 30,000 new cases being diagnosed each year in the U.S. alone. In recent years, immunotherapy with "checkpoint blockade drugs" is emerging as a major recourse for gastric cancer treatment, especially to treat cancers that have spread. This approach works by releasing the breaks on certain T lymphocytes, which are immune cells that target cancer cells for destruction.

However, the response to checkpoint blockade is often poor because of other cells in the vicinity of the tumor, such as immunosuppressive neutrophils (white blood cells) that inhibit the ability of T cells to kill the tumor. Furthermore, these neutrophils are abundant in advanced gastric cancers and represent a bad prognostic sign. Dr. Wang's previous studies have shown that a small, naturally secreted peptide called TFF2, can regulate these 'bad' neutrophils.

Dr. Wang and his team also observed that TFF2 preserved the "good" neutrophils that inhibit tumors; and selectively targeted the "bad" suppressive neutrophils for destruction by binding through a surface receptor and thus allowing more T cells to infiltrate and destroy the tumor. In numerous studies in mice with stomach cancer, high levels of the TFF2 peptide led to a significant tumor reduction and better survival.

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They also found that attaching albumin (a large protein in the blood), to the TFF2 peptide (TFF2-MSA) makes it more stable and effective, allowing for less frequent dosing. The TFF2-MSA can also be combined with other drugs to improve therapeutic effectiveness.

They now plan to accelerate the translation of the TFF2-MSA therapy to clinical use by conducting a series of studies to optimize the treatment scheme and identify patient groups who will benefit. They will first confirm that a less frequent dose of the peptide is sufficient either alone or in combination with chemotherapy to treat gastric cancers.

Next, they will identify biomarkers for clinical studies by examining the levels of naturally occurring TFF2 and their correlation with prognosis. They will also examine whether reduced levels of the suppressive neutrophils and elevated levels of TFF2 and CD8+ T cells in the blood are indicative of a better response to therapy. They will follow up with analysis of blood samples from treated patients to determine if TFF2-MSA plasma levels, circulating neutrophils and CD8+ T cells can be used as indicators of treatment responsiveness and guide prognosis.

"The proposed studies not only provide a novel therapeutic strategy for gastroesophageal cancers but also investigate whether blood tests for specific proteins have prognostic value. Together, the proposed studies have the potential to transform treatment outcomes for gastric cancer patients," advised Dr. Wang.

"Dr. Wang's research is very exciting and brings us that much closer to a clinical trial and a potential cure," concluded Lynn DeGregorio, President and Founder of the DeGregorio Family Foundation.

The DeGregorio Family Foundation, founded in 2006 after a 10th member of the DeGregorio family died of stomach cancer, has raised more than \$12 million to fund innovative research to cure gastric and esophageal cancers. It is the only public foundation solely focused on funding research grants for both of these cancers.



The DeGregorio Family Foundation is the only public foundation solely focused on funding research grants for both gastric and esophageal cancers—<u>click here to</u> donate and...

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