

Grant Awarded to Reverse Taxane Drug-Resistance to Gastroesophageal Cancer

NEW YORK, March 16, 2022 – [The DeGregorio Family Foundation](#) with the support of the Price Family Foundation and the [Esophageal Cancer Awareness Association](#) has awarded \$250,000 to Paraskevi Giannakakou, PhD, Professor of Pharmacology in Medicine at Weill Cornell Medicine. Dr. Giannakakou and her team seek to identify clinically actionable mechanisms to overcome taxane resistance in gastroesophageal cancer, the second leading cause of cancer-related deaths worldwide. The taxanes, microtubule-stabilizing cancer drugs, are a mainstay of treatment for gastroesophageal cancer, used in both first- and second-line therapy. However, their clinical benefit is not sustained, owing to drug resistance. To date, and despite their wide use in oncology, taxane resistance in gastroesophageal cancer patients is not understood.

“Our collective goal is to translate basic science discoveries into true clinical gains for patients with this deadly disease,” said Dr. Giannakakou. “Funding from and partnering with the DeGregorio Family Foundation is a critical step to accelerate this process.”



Dr. Giannakakou and her team brought together expertise in clinical and translational oncology, basic science and computational biology in a multi-pronged approach to tackle this challenge. They discovered a novel, previously unrecognized variant of the microtubule plus-end binding protein CLIP-170, which they named CLIP-170S. They also discovered that CLIP-170S causes taxane resistance by limiting drug access to its binding site on microtubules. Clinically they found that CLIP170S is expressed in ~60% of gastroesophageal cancer tumors and significantly enriched in patients resistant to taxane chemotherapy.

Next, they sought to identify a drug therapy that could reverse or prevent CLIP-170S-mediated resistance in gastroesophageal cancer patients. Using an innovative computational platform and validating the predictions experimentally, they discovered that a receptor tyrosine kinase inhibitor (RTKi) used in combination with docetaxel could benefit these patients. The DeGregorio Family Foundation grant will enable them to test this therapeutic combination in animal models, thus generating necessary preclinical evidence for future clinical trials.



“Our collective goal is to translate basic science into true clinical gains for patients with this deadly disease.”

- Dr. Paraskevi Giannakakou

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In 2020, gastric and esophageal cancers combined to kill over 1.3 million people worldwide. Patients continue to face poor prognoses following gastric and esophageal cancer diagnoses due to their chemo-resistant behavior and ability to metastasize.

The DeGregorio Family Foundation, founded in 2006 after a 10th member of the DeGregorio family died of stomach cancer, has raised more than \$7 million to fund innovative research focused on curing gastric and esophageal cancers. “We are proud to support Dr. Giannakakou’s important, multidisciplinary approach as we work to turn the tide on gastroesophageal cancers,” concluded Lynn DeGregorio, President and Founder.



The DeGregorio Family Foundation funds innovative research focused on curing gastric and esophageal cancers—[click here to donate](#) and...

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