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BASIC// DISCOVERY

# HOW to RE-STRESS PANCREATIC CANCER

**WHAT IS THE MOLECULAR BASIS FOR PANCREATIC CANCER'S** aggressive nature and resistance to treatment? **Elda Grabocka, PhD**, assistant professor of cancer biology and surgery, is working to find out. Last year, she received both a Margaret Q. Landenberger Research Foundation grant—which supports promising early-stage medical researchers—and her first NIH/NCI R01 grant. She has also received a V Foundation Scholar Research Award and a W.W. Smith Charitable Foundation grant. Her research investigates pancreatic cancer's ability to hijack the mechanisms by which normal cells adapt stressors. Ratcheting up that mechanism allows tumors to grow under adverse conditions and it enhances their resistance to chemotherapy.

Ninety percent of pancreatic cancers are associated with a mutation in the KRAS gene (one of the category of genes that are associated with 30 percent of all cancers). Dr. Grabocka's lab has identified that mutant KRAS cancers increase the activity of cell structures known as stress granules, which has the effect of enhancing tumor cell fitness and protecting it from chemotherapeutic agents. Dr. Grabocka and colleagues also developed methods that enable researchers to more effectively determine how stress granules are formed and how they support the development of pancreatic tumors.

Building on these initial discoveries, Dr. Grabocka is now using 3D cell culture models and mouse models to study stress granules' specific role in drug resistance and to investigate how oncogenic signaling and stress stimuli interact to promote pancreatic tumor development. Ultimately, she aims to develop strategies for targeting stress granules in treatments for a range of RAS gene cancers. ■