

Pancreatic cancer development

September 1 2017, by Leigh Macmillan

Pancreatic ductal carcinoma (PDAC) is one of the most lethal types of cancer, with new therapeutic options needed.

Sergey Novitskiy, M.D., Ph.D., and colleagues investigated the [immune response](#) during the development of aggressive PDAC in an animal model of the disease. They found elevated levels of G-CSF (granulocyte-colony stimulating factor) in the pancreatic epithelium. The elevated G-CSF promoted the maturation of [immune cells](#) expressing immune-suppressive genes and decreased proliferation of tumor-killing T [cells](#).

The researchers discovered a similar pattern in human data from the Cancer Genome Atlas and tissue microarrays.

Inhibiting G-CSF with a blocking antibody in combination with the chemotherapy drug gemcitabine reduced tumor size, decreased the number of immunosuppressive cells and increased the number of infiltrating T cells more effectively than gemcitabine alone.

The findings, reported in *Cancer Immunology Research*, suggest that anti-G-CSF treatments may increase the efficacy of conventional chemotherapeutic interventions in PDAC.

More information: Michael W. Pickup et al. Development of Aggressive Pancreatic Ductal Adenocarcinomas Depends on Granulocyte Colony Stimulating Factor Secretion in Carcinoma Cells, *Cancer Immunology Research* (2017). [DOI: 10.1158/2326-6066.CIR-16-0311](https://doi.org/10.1158/2326-6066.CIR-16-0311)

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