

## **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 <u>immune</u> <u>response</u> during the development of aggressive PDAC in an animal model of the disease. They found elevated levels of G-CSF (granulocytecolony stimulating factor) in the pancreatic epithelium. The elevated G-CSF promoted the maturation of <u>immune cells</u> expressing immunesuppressive genes and decreased proliferation of tumor-killing T <u>cells</u>.

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). <u>DOI:</u> <u>10.1158/2326-6066.CIR-16-0311</u>



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