

## NICHE PREPARATORY FUNCTION OF EARLY ONCOGENIC KRAS SIGNALING IN PANCREATIC CANCER

Ivan Costa

UEG Week Copenhagen 2023

Poster

Pancreas

October 15, 2023

**Single-cell RNA sequencing of stem cell-derived pancreatic organoids reveals that mutated KRAS drives early niche-preparatory signals that precede and enable dysplasia in pancreatic cancer.**

### KEY POINTS

- Cells expressing high levels of mutated KRAS separate into two subpopulations with distinct gene expression signatures, including overexpression of genes related to cell motility, migration, and enhanced cytokine-related signaling.
- KRAS G12D-expressing pancreatic ductal-like organoids induce cancer-associated fibroblast differentiation and shield non-cancerous K-ras activated organoids from T cell infiltration in vitro.
- The findings support the hypothesis that mutated KRAS G12D overexpression in healthy pancreatic duct prepares a tumor niche before dysplasia occurs.
- Ligand-receptor analysis in a virtual pancreatic cancer space identified and validated novel pathways relevant to early oncogenic events.
- This work is relevant to researchers studying early pancreatic cancer development, KRAS-driven tumorigenesis, and tumor-niche interactions.

VIEW THIS CONTENT ON GUTFLIX

<https://gutflix.eu/search/d/193ec650-743c-11ee-9c8a-0242ac140004>



**AI-generated summary**

This summary was generated by an AI large language model based on the content transcript. It is for informational purposes only and should not be considered a substitute for clinical judgment. Always rely on your professional expertise and the full clinical context when making clinical decisions.