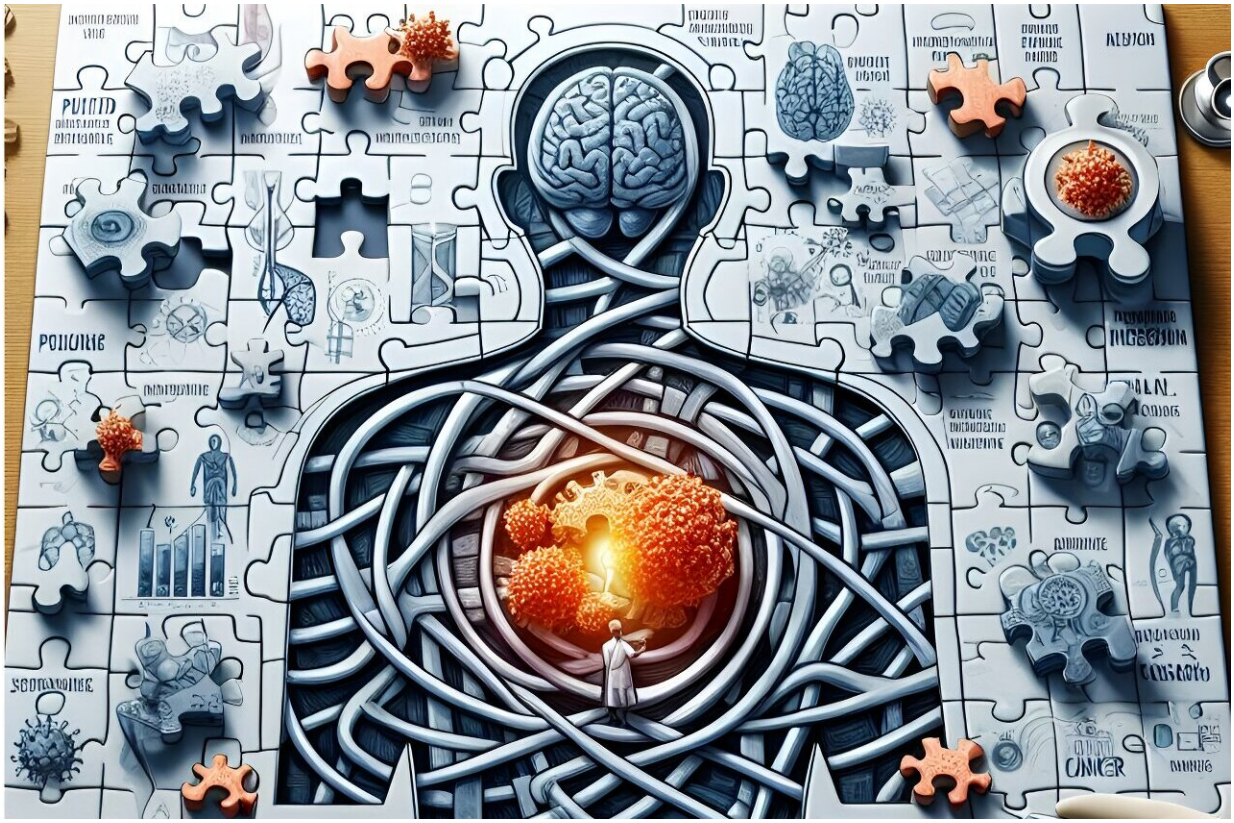
# Navigating the maze of cancer: How precision medicine unravels the unknown

March 22 2024, by Simon L. April-Monn



Precision medicine at the forefront. Guided by precision medicine, we pioneer tailored therapies for rare GEP-NENs, leveraging innovative tools to adapt treatments to individual patient and disease characteristics, advancing therapeutic development in the field. Credit: Image created by DALL·E 3

In our journey to unravel the obscurities of high-grade

gastroenteropancreatic neuroendocrine neoplasms (GEP-NENs), we've embarked on a quest guided by personalized medicine principles. Imagine you're faced with a challenging puzzle—each piece representing a unique aspect of your illness. Precision medicine acts as our Personalized Puzzle Solver, meticulously arranging these pieces to reveal a clearer picture of the disease.

Navigating through the intricate maze of rare cancers, we encounter myriad challenges. But armed with innovative, state-of-the-art research tools like patient-derived tumoroids—miniature replicas of tumors cultivated in the lab—we gained invaluable insights into the inner workings of GEP-NENs. These three-dimensional tumor models offer an unprecedented glimpse into cancers' biological complexities and functioning, helping us tailor potential novel therapy strategies for individual patients.

One of the most thrilling discoveries from our study is the identification of two novel therapeutic targets—Lysine Demethylase 5A (KDM5A) and interferon-beta 1 (IFNB1). Think of these targets as hidden clues within the puzzle of cancer. When combined with the first-line chemotherapy cisplatin, they create a powerful synergy, enhancing the effectiveness of the anti-cancer treatment in our ex vivo patient-derived tumoroid models.

But our journey is far from over. Charting uncharted territories, we're faced with countless unanswered questions and challenges. Yet, with each breakthrough, we edge closer to unlocking the secrets of rare cancers. Through collaboration and perseverance, we're paving the way for novel and effective therapy strategies that hopefully will aid in battling this challenging disease.

In conclusion, our study published in published in the journal *npj Precision Oncology* represents a leap forward in the fight against high-

grade GEP-NENs. By harnessing the principles of personalized medicine and translational cancer research, we're not just solving puzzles—we're hopefully transforming the cancer field. And as we continue our pursuit of a cure, our resolve remains unyielding: to use the power of science and innovation to conquer even the most perplexing of adversaries.

*This story is part of Science X Dialog, where researchers can report findings from their published research articles. Visit this page for information about ScienceX Dialog and how to participate.*

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Dr. April-Monn is a postdoctoral scientist specializing in personalized cancer medicine. With a background in biomedical sciences and molecular and cellular biology his research focuses on understanding the molecular mechanisms of rare cancers and developing personalized therapeutic approaches. He is committed to ethical research practices and aims to translate his findings into clinical applications for the benefit of cancer patients worldwide.