

## Research profile for applicants

Name of DKFZ research division/group:	<b><i>Tumorigenesis and Molecular Cancer Prevention Group (C150)</i></b>
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Group homepage: <i>Visit this website for further information on current research and recent publications.</i>	<a href="https://www.dkfz.de/en/tumorigenesis-and-molecular-cancer-prevention">https://www.dkfz.de/en/tumorigenesis-and-molecular-cancer-prevention</a>

### RESEARCH PROFILE AND PROJECT TOPICS

The Tumorigenesis and Molecular Cancer Prevention group investigates the earliest stages of gastro-esophageal cancer development, with the goal of improving early detection and prevention strategies. Using advanced single-cell and molecular biology approaches, and in close collaboration with clinical partners in Heidelberg, Mannheim, Cambridge, New York City, and Warsaw, our group aims to bridge fundamental cancer biology with translational and clinical research.

Recent work from our lab has uncovered novel transcriptional programs that define precancerous stages of gastric and esophageal neoplasia. We have also developed innovative DNA sequencing technologies that enable effective risk stratification of precancerous lesions. These tools are currently being validated in clinical settings, demonstrating the feasibility of using DNA-based molecular biomarkers for affordable and routine clinical implementation. We are seeking a highly motivated postdoctoral researcher to join our interdisciplinary team. The candidate will have the opportunity to contribute to cutting-edge projects in early cancer detection, with potential research directions including:

- Investigating the evolutionary dynamics and clonal architecture of precancerous lesions at single-cell resolution.
- Exploring epigenetic reprogramming and its role in the transition from normal to precancerous states in gastro-esophageal tissues.
- Designing and implementing clinical studies in collaboration with our medical partners to translate fundamental discoveries into real-world early detection and interception strategies.

This position offers an excellent environment for career development at the interface of molecular biology, cancer genomics, and clinical research. The ideal candidate will have a strong background in molecular biology, genomics, or related fields, and a keen interest in translational cancer research.



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