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Summary

PROCESSED POLYMERIC DIETS EXACERBATE TUMORIGENESIS IN MURINE MODELS OF ATF6-DRIVEN COLON CANCER

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UEG Week Copenhagen 2023 | Poster

Small Intestine & Nutrition

October 15, 2023

Processed diets exacerbate ATF6-driven colorectal cancer in mouse models, with fermentable fiber unexpectedly promoting rather than protecting against tumorigenesis.

KEY POINTS

- ATF6 is a putative oncogene with high epithelial expression detected in 16% of CRC patients from a cohort of 972
- Human fecal microbiota transfer established tumorigenesis in germfree ATF6-expressing mice that were otherwise tumor-free
- Highly processed western diet induced de novo tumor formation in monoallelic nATF6 mice and increased tumor load in biallelic nATF6 mice compared to unprocessed chow
- Absence of fermentable fiber in polymeric diets accelerated tumorigenesis, while fiber supplementation failed to protect against western diet-induced tumors
- High fermentable fiber content in low-fat processed diets exacerbated ATF6-driven tumorigenesis, suggesting fiber acts as a tumor driver in processed diet contexts

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