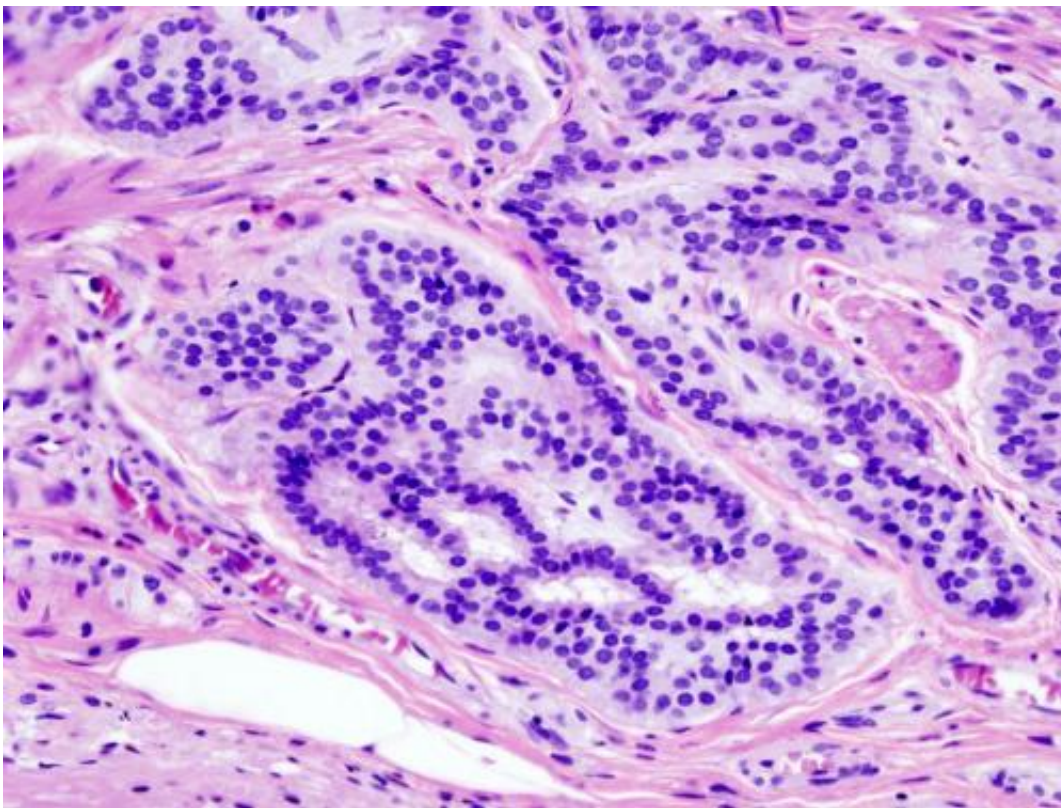


Study supports links between bovine meat and milk factor protein expression, inflammation as cause of colorectal cancer

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Cancer—Histopathologic image of colonic carcinoid. Credit: Wikipedia/CC BY-SA 3.0

Bovine meat and milk factors (BMMFs)—initially identified by de Villiers et al. in 2014—represent a class of infectious agents in beef and

cow's milk that have been linked to the development of cancer. New research published in *Molecular Oncology* suggests that monitoring the presence and rate of expression of a BMMF-encoded replication protein (Rep) in inflammatory sites of the tissues may help identify individuals at risk for developing colorectal cancer subsequently after decades-long latency periods.

The study compared the presence of Rep and specific immune cells in tissues from people with and without [colorectal cancer](#). In addition to observing differences in Rep expression between these groups, the investigators identified the Rep in [immune cells](#) involved in [inflammation](#) in precancerous stages, supporting an early contribution of BMMF to colorectal cancer by inflammation-driven indirect carcinogenesis described by zur Hausen in 2001 and 2009.

"With further studies, we aim to address whether the identification of BMMF-positive inflamed tissue can be used as an early risk marker for colorectal cancer. Therefore, first monitoring of Rep expression and inflammation in biopsies is important to better understand BMMF-specific induction of cancer and prognosis," said corresponding author Timo Bund, Ph.D., of the German Cancer Research Centre. "The early identification of BMMF might offer new options for preventive and therapeutical intervention."

More information: Bovine meat and milk factor protein expression in tumor-free mucosa of colorectal cancer patients coincides with macrophages and might interfere with patient survival, *Molecular Oncology* (2023). [DOI: 10.1002/1878-0261.13390](https://doi.org/10.1002/1878-0261.13390)

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