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NEWS AT STATE

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Research explores tumor-fighting properties of some milk products

CAPTION: SDSU associate professor Ashraf Hassan and his colleagues are adding to what is known about the potential use of some milk products to lower the risk of colon tumors. Some of Hassan's work focuses on fermented milk products such as yogurt and cheese.

percent of cancer deaths in men and women.

Fermented milks are consumed in many parts of the world for their acidic taste and health benefits. Some strains of lactic acid bacteria used in making fermented milks produce exopolysaccharides, or EPS — polymers usually high in molecular weight that are made up of sugar residues and are secreted by microorganisms such as bacteria.

Exopolysaccharides are associated with factors such as the smoothness and creaminess of fermented milk products and some may also have chemopreventive properties, meaning they can interfere with disease processes.

"Reports in the literature showed chemopreventive activities of polysaccharides from mushrooms. Since the structure of such polysaccharides is somehow similar to that in the bacterial EPS, we expected bacterial EPS to show similar activities," Hassan said.

Hassan added that there is a correlation between molecular characteristics of polysaccharides from mushrooms and their chemopreventive activities.

Rats were on diets supplemented with different fermented milks made with differing strains of EPS-producing or non-producing cultures. Rats fed diets supplemented with fermented milk made with two EPS-positive strains and one EPS-negative strain had significantly lowered incidence of colon tumors compared to the other groups.

Researchers don't fully understand the mechanisms by which the components of milk fermented using lactic acid bacteria inhibit the development of colon tumors. The inhibitory effect is likely due to different modes of action of different components in the various cultures. As researchers learn more, Hassan said, it may become possible to craft dairy products with known disease-fighting properties.

"It is quite comforting to know that consumption of dairy products could help prevent colon tumor developments," Dwivedi added.

The research was supported in part by the South Dakota Agricultural Experiment Station.

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