

White button mushrooms could slow progression of prostate cancer

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The chemicals present in white button mushrooms may slow the progression of prostate cancer, according to a mouse study presented virtually at ENDO 2021, the Endocrine Society's annual meeting.

"Androgens, a type of male sex hormone, promote the growth of prostate cancer cells by binding to and activating the androgen receptor, a protein that is expressed in [prostate cells](#)," said lead researcher Xiaoqiang Wang, M.D., Ph.D., M.B. (A.S.C.P.), of the Beckman Research Institute of City of Hope, a comprehensive cancer center in Duarte, Calif. "White button mushrooms appear to suppress the activity of the androgen receptor."

City of Hope's Shiu-an Chen, Ph.D., the principal investigator of this project, previously conducted a phase one clinical trial of white button mushroom powder in patients with recurrent prostate cancer, which indicated that the mushrooms reduced levels of prostate-specific antigen (PSA) in the blood, with minimal side effects. Heightened blood levels of PSA in men may indicate the existence of prostate tumors.

The new study aimed to understand the mechanism behind this finding. The researchers studied the mushroom extract's effect on prostate cancer cells that were sensitive to androgen. They also studied the extract's effect on mice implanted with human prostate tumors, which creates an [animal model](#) whose results would be more reliable as the research is translated to [human clinical trials](#).

The researchers found that in prostate cancer cells, white button mushroom extract suppressed androgen receptor activity. They also found that in mice treated with white button mushroom extract for six days, prostate tumor growth was significantly suppressed, and levels of PSA decreased.

"We found that [white button mushrooms](#) contain chemicals that can block the activity of the [androgen receptor](#) in mouse models, indicating this fungus can reduce PSA levels," Wang said. "While more research is needed, it's possible that white button mushrooms could one day contribute to the prevention and treatment of prostate cancer."

Provided by The Endocrine Society

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