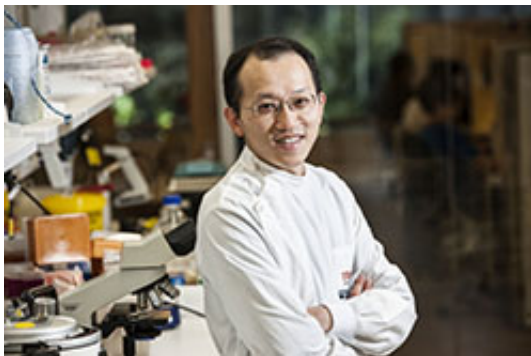


# Mushroom compound with vitamin E suppresses prostate cancer tumours

11 September 2014, by Niki Widdowson



Dr Patrick Ling

Stopping Australia's most commonly diagnosed cancer - prostate cancer - in its tracks is the goal of scientists around the world.

A QUT research team has discovered that two naturally occurring compounds, one from mushrooms and the other from palm oil, when used together can significantly reduce the growth of tumours in prostate cancer models.

Dr Patrick Ling from QUT's Institute of Health and Biomedical Innovation and the Australian Prostate Cancer Research Centre-Queensland said the two compounds induced a drastic activation of the cancer fighting protein, AMP-activated protein kinase (AMPK).

"AMPK is a key player in suppressing cancer cell growth - and the mushroom compound works together with the Vitamin E to activate AMPK to much higher levels," said Dr Ling, who is based at Brisbane's Translational Research Institute.

Dr Ling's previous research confirmed that the compound, polysaccharopeptide (PSP), found in the turkey tail mushroom, or yunzhi as it's known in China, prevented prostate cancer development in pre-clinical investigations.

"In China people have put the mushroom in soups to boost health and immunity for millennia and in the past few decades have been studying its effects on cancer," he said.

"We then studied the effects on [prostate cancer cells](#) of a form of natural Vitamin E called gamma-tocotrienol or gamma-T3 which is extracted from [palm oil](#).

"There has been interest in gamma-T3 for the past 20 years and a rapid increase in research on its anti-cancer effects for the past five years.

"This natural form of gamma T-3, which can also be extracted from rice bran oil is much more potent than the synthetic form at reducing [cancer cell growth](#)."

Dr Ling said the team's latest research also indicated that PSP actually sensitised the cancer cells to gamma-t3 cytotoxicity in [prostate cancer](#) models

He said the two compounds' synergistic effect could potentially enhance chemotherapy and mitigate its side effects.

**More information:** "Polysaccharopeptide enhanced the anti-cancer effect of gamma-tocotrienol through activation of AMPK." Liu J, Lau EY, Chen J, Yong J, Tang KD, Lo J, Ng IO, Lee TK1, Ling MT. *BMC Complement Altern Med*. 2014 Aug 16;14:303. [DOI: 10.1186/1472-6882-14-303](https://doi.org/10.1186/1472-6882-14-303).

Provided by Queensland University of Technology

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