

# Treating muscle wasting improved cancer survival

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Researchers from the University of Jyväskylä in Finland have found that continued treatment of muscle wasting with a soluble growth factor receptor protein, produced at the University of Helsinki, improved survival in a pre-clinical cancer model without affecting the tumour size. This effect was not found when the mice were treated with the recombinant protein only prophylactically before cancer.

"These findings, together with a few earlier rodent studies, as well as a rather large body of epidemiological evidence in humans, have led to suggestions of a possible causal link between the preservation of muscle mass and improved survival. It can be speculated that the preservation of some specific, vital muscles, such as the major respiratory muscles, may be especially important for this [effect](#)," says Ph.D. student Tuuli Nissinen and the Academy of Finland Research Fellow and group leader Juha Hulmi.

"However," they continue, "our results cannot rule out some muscle-independent effects of our protein. It seems that circulating pro-inflammatory cytokines, physical activity, or hepatic and splenic physiology, which were all altered in [cancer](#), may not be determining factors for improved survival with the soluble growth factor receptor, more specifically soluble activin receptor 2B."

The study was conducted in the Faculty of Sport and Health Sciences at the University of Jyväskylä in collaboration with researchers in Helsinki and Torino. The results are published in the [muscle](#) research journal

*Journal of Cachexia, Sarcopenia and Muscle.*

**More information:** Tuuli A. Nissinen et al, Treating cachexia using soluble ACVR2B improves survival, alters mTOR localization, and attenuates liver and spleen responses, *Journal of Cachexia, Sarcopenia and Muscle* (2018). [DOI: 10.1002/jcsm.12310](https://doi.org/10.1002/jcsm.12310)

Provided by University of Jyväskylä

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