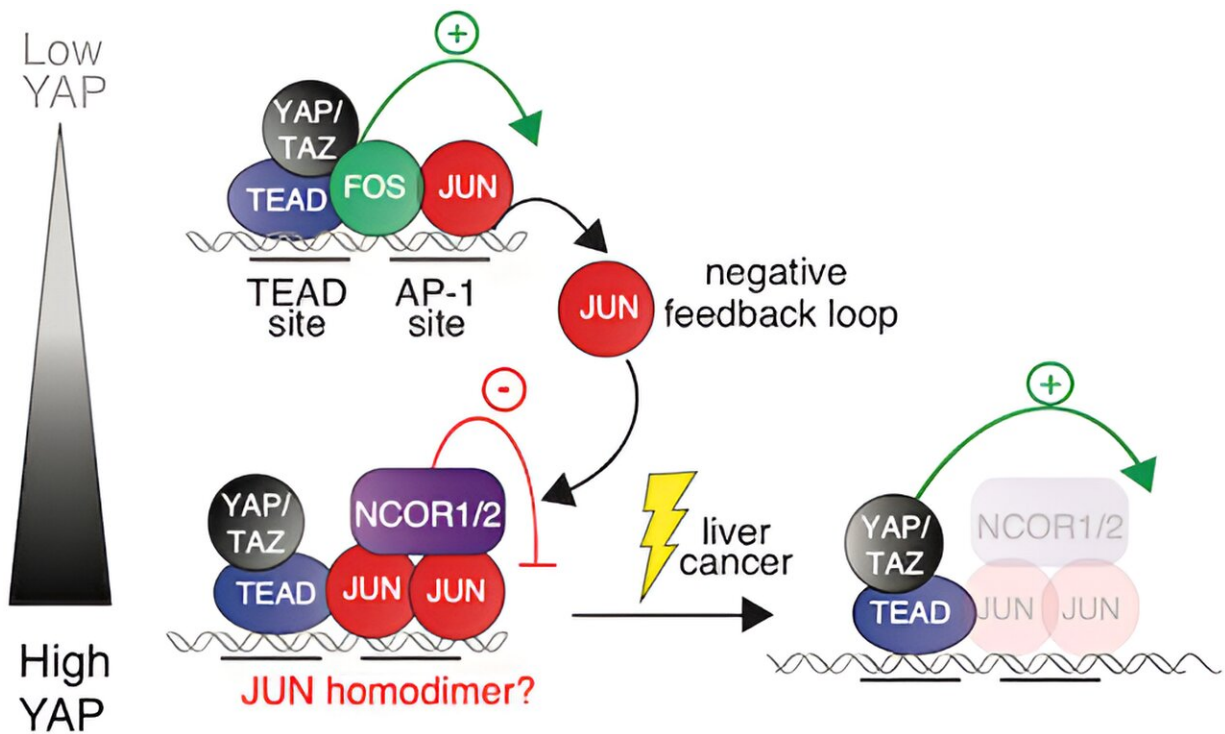


Crucial role of JUN protein in restraining liver cancer growth discovered

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Synopsis. Credit: *The EMBO Journal* (2024). DOI: 10.1038/s44318-024-00188-0

A team of scientists led by Dr. Björn von Eyss has discovered an additional control mechanism that prevents the growth of liver cancer.

In the *EMBO Journal*, the research team from the Leibniz Institute on Aging—Fritz Lipmann Institute (FLI) in Jena demonstrates that the

protein JUN plays a decisive role in the suppression of YAP and TAZ. Both are proteins that can strongly contribute to tumor formation when dysregulated.

The scientists made these [new findings](#) incidentally while analyzing data from over 8,000 patients and became aware of abnormalities in liver cancer patients.

"This discovery opens up new perspectives in [cancer research](#) and could lead to innovative treatment strategies," says Dr. Björn von Eyss. "This is because targeted interventions in the function of JUN could potentially control or even prevent the growth of liver cancer."

Under normal circumstances, the activity of YAP and TAZ is controlled by the so-called Hippo signaling pathway. However, the researchers were able to demonstrate that JUN also directly inhibits the activity of these cancer growth-promoting proteins.

They describe this as an additional control mechanism that goes beyond the Hippo signaling pathway. Furthermore, particularly in [liver cancer](#), it was shown that misregulation of JUN can lead to uncontrolled activation of YAP and TAZ, thereby promoting [tumor growth](#).

JUN thus fulfills two essential functions: It is involved in both inflammatory and regenerative processes in the cells. This dual function could significantly influence how cancer and other diseases develop and how they can be treated in the future.

The question of which factors determine whether JUN regulates inflammatory or regenerative processes is still unanswered.

More information: Yuliya Kurlishchuk et al, A non-canonical repressor function of JUN restrains YAP activity and liver cancer

growth, *The EMBO Journal* (2024). DOI: [10.1038/s44318-024-00188-0](https://doi.org/10.1038/s44318-024-00188-0)

Provided by Leibniz Institute on Aging – Fritz Lipmann Institute (FLI)

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