Researchers determine how the p53 protein can lead cancer cells to their death
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Erik Dassi, member of the research team, said, "When cancer cells are treated with a certain drug, it is the action of this switch (DHX30) that makes them go toward cell death and not in the direction of cell cycle arrest."

Alberto Inga, from the same team, said, "The drug activates p53, which oversees the various pathways of cancer cells. Scientists have thought for decades that we could make cancer cells take the direction of programmed cell death by intervening 'upstream' of p53."

Dario Rizzotto, first author of the study, said, "What we argue, instead, is that a significant part of that decision is made 'downstream' of p53. In other words, the activation of p53 in cancer cells can lead to a number of possible responses in the cells; the 'switch' that we identified regulates the response that could be the most important for therapeutic reasons. When there is no interaction between DHX30 and relevant mRNAs, cancer cells die."

This could lead to more tailored and effective molecular treatments, especially to treat some types of tumors, for example, solid tumors in the colon, breast and lungs.

The article, "Nutlin-induced apoptosis is specified by a translation program regulated by PCBP2 and DHX30," was published on 31 March 2020, in Cell Reports.


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