

Recent findings may help to fight melanoma's resistance to chemotherapy

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Blocking the action of a particular protein in our skin could improve the treatment of skin cancers, according to a study published in *Oncogene* yesterday by Philippe Roux, a researcher at the University of Montreal's Institute for Research in Immunology and Cancer (IRIC).

"Our findings reveal part of the mechanisms responsible for the resistance of melanoma to anti-cancer treatments, and suggest that a particular protein in our bodies called RSK may be targeted in combination therapies to overcome [drug resistance](#)," Roux explained.

Although melanoma accounts for only 4% of all skin cancers, it is responsible for 80% of skin cancer-related deaths worldwide as it is highly invasive and resistant to conventional chemotherapies. Melanoma originates from pigment-producing cells, called melanocytes, located in the skin. The incidence of [malignant melanoma](#) is growing rapidly worldwide and there is still no effective therapy to treat it.

Approximately 160,000 new cases of the disease are diagnosed each year.

Roux and his team focused their research on a signaling pathway called Ras/MAPK, which is often deregulated in melanoma, but also in lung, colon and pancreatic cancers. A signaling pathway is a chemical chain reaction that causes the cells in our bodies to act in a certain way. In this study, Roux and his team found that a protein in the Ras/MAPK pathway, RSK, contributes to chemoresistance by altering the response of [cancer cells](#) to chemotherapeutic agents.

This is the second *Oncogene* publication for Philippe Roux this year. In a paper published in July, Roux and his colleagues, IRIC Principal Investigators Katherine Borden and Sylvain Meloche, demonstrated that the same protein involved in chemoresistance contributes to melanoma growth, making the protein RSK a promising [therapeutic target](#) for treating the disease.

More information: RSK promotes G2 DNA damage checkpoint silencing and participates in melanoma chemoresistance H Ray-David, Y Romeo, G Lavoie, P Dél ris, J Tcherkezian, J A Galan and P P Roux *Oncogene* advance online publication, October 29, 2012; [doi:10.1038/onc.2012.472](https://doi.org/10.1038/onc.2012.472)

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