**PROJECT RESUME**

**TITLE**: Analysis of DNA damage response mouse keratinocytes lacking Rac1

Rac1 is a small GTPase that belongs to the Rho family, and it regulates several cellular processes such as cytoskeletal reorganization, cell migration, and cell cycle progression. Rac1 activity influences various signaling pathways, including those involved in cell survival and proliferation, and has been implicated in cancer cell invasion and metastasis.

Rac1 promotes cell survival in part by affecting the DNA damage response, where H2AX also plays a role. The interaction between Rac1 and H2AX can therefore influence cellular survival under stress, especially in the context of cancer cells exposed to genotoxic treatments.

Exploring the DNA damage response in Rac1 null keratinocytes will further our understanding of Rac1 biology and the role it plays in cell survival and metastasis.

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