

# Multiple myeloma survival down with high ADAR1 RNA expression

December 15 2017

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(HealthDay)—Amplification of the inflammation-responsive RNA

editase adenosine deaminase acting on RNA (ADAR)1 gene is associated with reduced survival in multiple myeloma (MM), according to a study published online Dec. 4 in *Nature Communications*.

Noting that ADAR1 occurs in 30 to 50 percent of MM patients and portends a poor prognosis, Elisa Lazzari, Ph.D., from the University of California in San Diego, and colleagues examined the role of genomic amplification combined with inflammatory cytokine activation of ADAR1.

The researchers report that there was a correlation between high ADAR1 RNA [expression](#) with reduced patient survival rates in the Multiple Myeloma Research Foundation CoMMpass data set. Alu-dependent editing and transcriptional activity of GLI1, a Hedgehog pathway transcriptional activator and self-renewal agonist, was enhanced by expression of wild-type, but not mutant ADAR1; expression also promoted immunomodulatory drug resistance in vitro. In serially transplantable patient-derived xenografts, ADAR1 knockdown reduced regeneration of high-risk MM.

"These data demonstrate that ADAR1 promotes malignant regeneration of MM and if selectively inhibited may obviate progression and relapse," the authors write.

**More information:** [Abstract/Full Text](#)

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Citation: Multiple myeloma survival down with high ADAR1 RNA expression (2017, December 15) retrieved 30 January 2023 from <https://medicalxpress.com/news/2017-12-multiple-myeloma-survival-high-adar1.html>

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