

# Metabolite common among cancers

8 February 2010

---

A study published online on February 8 in the *Journal of Experimental Medicine* reports that several distinct mutations found in a subset of patients with acute myelogenous leukemia (AML) result in excess production of the same metabolite.

The enzyme isocitrate dehydrogenase 1 (IDH1), which normally facilitates production of the metabolite {alpha}-ketoglutarate, is mutated in approximately 80% of secondary [brain tumors](#). This mutant version of IDH1 promotes excess production of a different metabolite: R (-)-2-hydroxyglutarate (2-HG).

A team led by Tak Mak (Toronto) detected elevated concentrations of 2-HG in the serum of the approximately 8% of AML patients with mutations in IDH1. In addition, they identified a mutation in IDH2—the sister enzyme of IDH1—in some AML patients. These patients also had unusually high serum levels of 2-HG.

Additional work is needed to understand if and how 2-HG influences [brain cancer](#) and/or [leukemia](#) progression. However, as these mutations have so far only been found in cancer, they may prove useful as drug targets.

**More information:** Gross, S., et al. 2010. *J. Exp. Med.* [doi:10.1084/jem.20092506](https://doi.org/10.1084/jem.20092506)

Provided by Rockefeller University

APA citation: Metabolite common among cancers (2010, February 8) retrieved 26 October 2021 from <https://medicalxpress.com/news/2010-02-metabolite-common-cancers.html>

*This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.*