

With HMGB1's help, cells dine in

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Sites of autophagy (green) are reduced in cells lacking HMGB1 (left) compared with control cells (right). Credit: Tang, D., et al. 2010. J. Cell Biol. doi:10.1083/jcb.200911078.

Like some people, cells eat when they are under pressure -- but they consume parts of themselves. A multi-function protein helps control this form of cannibalism, according to a study in the September 6 issue of the *Journal of Cell Biology*.

Cells often respond to hunger or stress by digesting some of their contents. The process, known as autophagy, helps free nutrients and clean up cytoplasmic trash such as worn-out organelles and misshapen proteins.

A team led by researchers at the University of Pittsburgh Cancer Institute discovered a link between this form of cellular recycling and the protein HMGB1. The team showed HMGB1 to be a critical proautophagic <u>protein</u> that enhances cell survival and limits programmed cell death.



The findings suggests that blocking HMGB1 could benefit cancer patients, since <u>tumor cells</u> often rev up autophagy to withstand <u>chemotherapy</u>, immunotherapy, and radiation treatment.

More information: Tang, D., et al. 2010. J. Cell Biol. doi:10.1083/jcb.200911078

Provided by Rockefeller University

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