

Pinpointing time of death for crime victims may be possible through our genes

Thanks to an extensive new survey of gene activity in human tissue after death, computational biologists have taken the first steps toward predicting when someone died based on those patterns.

...

[Computational biologist Roderic Guigó] and his colleagues looked at 9,000 samples of 36 tissues, “an impressive data set,” [computer scientist Ilias] Tagkopoulos says. Each sample included data on the time between the death of the donor and the preservation of the sample. Each tissue has a distinct pattern of increases and decreases in gene activity over time, and [these changes can be used to backtrack to the time of death](#), the team reports [February 13] in Nature Communications.

“The response to the death of the organism is quite tissue specific,” Guigó explains. For example, there was very little change over time in the brain’s or spleen’s gene activity, but more than 600 muscle genes either quickly increased or decreased activity after the loss of life.

...

The majority of gene activity changes, both increases and decreases, occur between 7 and 14 hours after death. Then after 14 hours, gene activity seems to stabilize, they report.

The findings make sense, Tagkopoulos says. “At a cellular level, death is a cascade of events affecting biological processes at different timescales,” he says, and genes control that cascade.

This software is the first step toward harnessing gene activity for forensics.

Read full, original post: [Changes in gene activity may one day reveal the time of death for crime victims](#)