

Press release

Centre for Epigenetics at BRIC, University of Copenhagen
publishes in *Nature*



Isolation of a new gene family essential for early development

Researchers at Centre for Epigenetics at BRIC, University of Copenhagen, have identified a new gene family (UTX-JMJD3) essential for embryonic development. The family controls the expression of genes crucial for stem cell maintenance and differentiation, and the results may contribute significantly to the understanding of the development of cancer.

The results are published in the current issue of *Nature*, and it follows up on 2 other high-impact articles on related gene families published in *Nature* and *Cell* by the same research group within the last year.

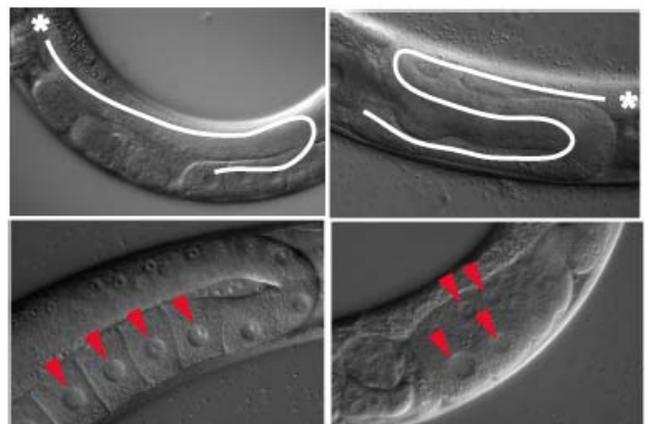
The BRIC researchers have now identified a new gene family, which by modifying gene expression is essential for the regulation of the differentiation process.

These results have been obtained by using both human and mouse stem cells, as well as by studying the development of the round worm, *C. elegans*.

Perspectives

The new findings are in line with a number of recent publications that support the idea that differentiation may not entirely be a “one-way process”, and may have impact on the therapeutic use of stem cells for the treatment of various genetic diseases such as cancer and Alzheimers disease.

The research was carried out by a team led by professor Kristian Helin at the new established Centre for Epigenetics at BRIC, University of Copenhagen, in cooperation with researchers at the University of Edinburgh, and the Weizmann Institute of Science, Israel.



*The two pictures to the left show a normally developed gonad and how oocytes (eggs) are situated. At the pictures to the right are shown examples of defects in the gonads and how the oocytes accumulate due to the lack of one of the *C. elegans* JMJD3 proteins.*

The article is scheduled for Advance Online Publication (AOP) on www.nature.com/nature on 22 August at 1800 London/1300 US Eastern time.

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