

# Key function in protein, cell transcription identified

May 1 2009

---

When cells decide to make proteins, key building blocks of all organisms, they need to know where to start reading the instructions for assembling them.

An Iowa State University researcher has figured out a mechanism involved in marking where these instructions are located in a cell's DNA.

In the current edition of *The [Journal of Biological Chemistry](#)*, Michael Shogren-Knaak, assistant professor in biochemistry, biophysics and molecular biology, along with Shanshan Li, a graduate student in his lab, show how a [protein](#), Gcn5, is involved in this process.

When a portion of the Gcn5 protein recognizes chemically modified proteins associated with DNA, called histones, this recognition facilitates further chemical modification of the histones.

This allows the information contained in that DNA, or genes, to be read more efficiently.

"This is very important in normal cell development from single cell organisms to us (humans)," said Shogren-Knaak.

Understanding how DNA is read should shed light on diseases where [DNA](#) is often inappropriately read.

"This is very likely to be significant for diseases like cancer," said

Shogren-Knaak.

"Cancer is distinguished by containing a lots of [genes](#) that should be turned off but aren't, and by proteins that should be made but aren't," he said. "That leads to [cells](#) that grow in an uncontrolled and undesirable manner."

Source: Iowa State University ([news](#) : [web](#))

Citation: Key function in protein, cell transcription identified (2009, May 1) retrieved 2 May 2024 from <https://phys.org/news/2009-05-key-function-protein-cell-transcription.html>

<p>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.</p>
--