

Scientists find gene turn-off

April 15 2006

Researchers at Philadelphia's Wistar Institute have found what appears to be a mechanism for ensuring that genes that are switched off stay off.

At any given time, only about 10 percent of the genes in the human body are activated. Keeping genes silent is crucial to preventing cancer and protecting the organism from viruses.

"We've discovered what looks to be an evolutionarily ancient mechanism for broadly repressing and protecting the genome," said Shelley L. Berger, the senior author on the study. "We believe it to be the first identified mechanism of its kind."

Working with yeast, the research team discovered that a protein called SUMO binds to histones, small proteins around which DNA coils. This suppresses gene activation and prevents gene transcription.

Berger said gene regulation mechanisms found in yeast are often discovered in mammals, remaining almost unchanged even though the evolutionary split occurred millions of years ago.

Copyright 2006 by United Press International

Citation: Scientists find gene turn-off (2006, April 15) retrieved 25 April 2024 from <https://phys.org/news/2006-04-scientists-gene-turn-off.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.