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Gail Gallessich

Scientists Isolate Protein that may be 'Boon' to Medicine

Scientists at UC Santa Barbara have isolated a unique protein that appears to have a dual function and could lead to a "boon in medicine." The findings are published in the August issue of the *Journal of Cell Biology*.

The protein that the researchers studied, named mDpy-30, affects both the expression of genes and the transport of proteins. "We first found that this protein has a dual location in the cell," said Dzwokai Ma, senior author and assistant professor in UCSB's Department of Molecular, Cellular and Developmental Biology.

"That spurred us to investigate this protein further, because location is always linked to function."

Proteins that are most sensitive to mDpy-30 are pivotal to the movement of a cell, according to the current study and unpublished results from the Ma lab. "Indeed, we have obtained preliminary evidence that mDpy-30 is an important regulator of cell movement," said Ma.

"The movement of a cell is essential to myriad biological functions such as neural networking, proper immunological function, and wound healing.

Consequently, when these processes go awry, they can result in the development or progression of human disease, including cancer metastasis."

What remains enigmatic, Ma added, is the particular role of mDpy-30 in protein transport regulation, and whether or how this function is coordinated with gene expression during cell movement. "Further study could lead to a boon in medicine," he said.

First authors from UCSB who contributed equally to the paper, are: Zhuojin Xu, Qiang Gong, and Bin Xia. Additional co-authors are Benjamin Groves, Mark Zimmerman, Brian Matsumoto, and Chris Mugler, of UCSB; Dezhi Mu of Sichuan University, Chengdu, China; and Matthew Seaman of the University of Cambridge, Cambridge, U.K.

About UC Santa Barbara

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