

Researchers discover new way to form extracellular vesicles

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Researchers at NYU Langone Medical Center have discovered a protein called TAT-5 that affects the production of extracellular vesicles, small sacs of membrane released from the surface of cells, capable of sending signals to other cells. When released extracellular vesicles can affect tumor spread, blood clotting and inflammation. Their discovery gives new insight into how extracellular vesicles form, and reveals new potential strategies to manipulate diseases such as cancer.

The study was published online November 17, 2011 in [Current Biology](#).

"Very little is known about how cells release extracellular vesicles from their surfaces, so the discovery of TAT-5 opens the door to learning how to manipulate their numbers and thus affect [cell communication](#)," said Jeremy Nance, PhD, associate professor of Cell Biology at NYU School of Medicine and a member of the Developmental Genetics Program at the Skirball Institute of Biomolecular Medicine.

Researchers at NYU Langone studied the embryo of the worm *C. elegans* and discovered that TAT-5 inhibits the budding of extracellular vesicles from the surface of cells. Several types of tumors produce extracellular vesicles that can induce tumor [cell invasion](#) or metastasis. Researchers found they can use *tat-5* mutants as a tool to study how extracellular vesicles are formed, enabling the design of strategies to regulate their formation. In the study, researchers also discovered that two proteins that regulate viral budding are involved in extracellular vesicle release, suggesting that budding of viruses and release of extracellular vesicles might occur through similar mechanisms, and that this research may reveal new strategies to inhibit viral spread.

Provided by New York University School of Medicine

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