# Clarification of unique communication channel with possible role in tumor

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Guido David, associated with VIB and KU Leuven, and Pascale Zimmermann have discovered a new mechanism for the formation of exosomes, small vesicles with a role in tumor development. This research has been published in the authoritative journal *Nature Cell Biology*.

Cells do more than just sit there, one next to the other - they constantly exchange information. It has been shown recently that they communicate via complex messages, wrapped in a small vesicle, and as if it was a letter in an envelope. These vesicles are called exosomes.

**Exosomes: small communication channels with a possible role in cancer**

Pre-clinical studies indicate that exosomes might contribute to tumor development, influencing tumor angiogenesis, immune escape and metastasis. As a result one is developing therapeutic anti-tumor strategies, targeting the formation of exosomes. Thus, a better understanding of the mechanism of exosome formation is essential, because they could lead to strategies to slow down tumor progression.

**An unexpected new mechanism**

The VIB and KU Leuven teams led by Guido David and Pascale Zimmermann report a novel mechanism for the formation of 'exosomes'. They show the essential role of an interaction between 3 proteins: Alix, syntenin and syndecan. Syndecans themselves are implicated in processes of carcinogenesis, immunity, inflammation and neurodegeneration. These proteins carry sugar chains known as heparan sulfates. By unraveling the role of syndecan in the formation of exosomes, David and Zimmermann show an entirely unexpected role of heparan sulfate in the formation of exosomes, and also how a gain in syntenin might promote the formation of metastases.

The mechanisms reported in this article can now be further studied, aiming at activating or inhibiting exosome formation, and doing so, influencing the pathological processes in which exosomes are implicated.

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