*Science Frontier: Biological Chemistry Seminar*

# Extracellular vesicles as crossroad among disease progression, biomarker discovery and drug delivery systems


## Dr. Riccardo Vago

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Specialty field: protein science(toxin), extracellular vesicles


**Date & Time: 3rd October (Friday) 15:00-16:00**
**Venue: Nakamozu campus**
**A13 build. 3F room 323**

No prior registration is required
Please come direct to the venue

Extracellular vesicles (EVs) are naturally secreted nanovesicles that have gained a great interest in the scientific and clinical community for their roles in intercellular communication in almost all physiological and pathological processes. They are released from the cells into the extracellular space and ultimately into biofluids in a tightly regulated way. Their molecular composition reflects their cells of origin, may confer specific cell or tissue tropism and underlines their biological activity. By carrying specific sets of proteins, nucleic acids, lipids and metabolites, they represent an appealing source of novel non-invasive markers through biofluid biopsies. EV-shuttled molecules maintain their biological activity and are capable of modulating and reprogramming recipient cells. This multi-faceted nature of EVs hold great promise for improving cancer treatment featuring them as novel diagnostic sensors as well as therapeutic effectors and drug delivery vectors. Natural biological activity including the therapeutic payload and targeting behavior of EVs can be tuned via genetic and chemical engineering.

We are currently exploring the potential roles of EVs in diagnostics and therapeutics, in order to develop novel solutions for the biomedical applications in the oncological field.


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