

Abstract

Exosomes (ES) and microvesicles (MV), collectively called extracellular vesicles (EV), are submicroscopic vesicles encapsulated by a phospholipid bilayer. Smaller ES (40 – 100 nm) originate in endosomal compartment, while larger MV (50 – 1000 nm) shed from cell plasma membrane. EV are secreted by all types of cells. They consist of lipids and proteins, but their composition varies according to the cell they originate from. In addition, they differ in the cargo they transport (DNA, RNA and proteins). They occur in every bodily fluid in much higher amounts compared to the original cells themselves, what makes them an attractive and accessible biomarker of autoimmunity diseases, cardiovascular diseases or tumours. For detection of EV, sensitive flow cytometry (FCM) is used, which I am going to compare to alternative methodologies.

Part of this work will be description of EV biogenesis and then I will focus on the role of EV in coagulation and inflammation related to autoimmune diseases, more specifically in rheumatoid arthritis (RA).