

The members of our Laboratory of Clinical Biophysics (on the Faculty of Health Studies, UL), prof. Veronika Kralj-Iglič and dr. Roman Štukelj, are the coauthors of the

European Patent 3 185 921

granted by the European Patent Office (EPO) in the year 2019

Title of the patent: *Method for treatment of tools and tools used for isolation of microvesicles, nanovesicles or exosomes*

Proprietors: J. Stefan Institute (Ljubljana) and University of Ljubljana

LINK:

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160303&DB=&locale=en_EP&CC=WO&NR=2016030358A1&KC=A1&ND=4#

ABSTRACT: According to the present invention a method which prevents excessive adsorption of microvesicles (endosomes, exosomes) on the surfaces of tools used for sampling, storing and handling body fluids containing microvesicles is provided. The method comprises the steps of: selecting said a tool from the a list plurality of tools including but not limited to needles, blood tubing, blood bags, catheters, Eppendorf tubes, pipettes or the like, providing said tool from said plurality of tools, providing a source of positively and negatively charged particles of high density, selecting a source assuring for formation of positively and negatively charged particles of high density and treating a surface of said tool by applying short pulses of said source of particles next to or on the said surface of said tool to assure surface modification of said surface by reacting said positively and negatively charged particles of high density on said surface. The method according to the present invention ensures contacting of tools with short pulses of highly ionized gas comprising both positively and negatively charged particles, the pulses being essentially short enough to avoid excessive heating of materials used for collecting, sampling, storage, transport and isolation of micro vesicles and the density of both positively and negatively charged particles which is essentially high enough to cause roughening of said tools on sub-micrometer or nanometer scale. Especially tools treated according to the present inventive method prevents excessive adsorption of microvesicles on the surfaces of said tools used for collecting, sampling, storing, transporting and isolating of microvesicles or the like. The method according to the present invention enables higher yields and lower fragmentation of microvesicles for instance by preventing adsorption of this valuable diagnostic material on the surface of different tools used for isolation and detection. Accordingly, the present invention also provides increasing the roughness of a material by the method according to the present invention. In particular the material which is used to produce diagnostic or medical tools or devices.