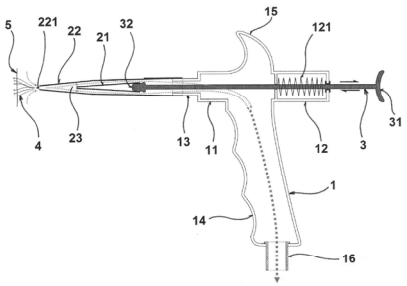
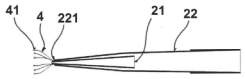
Method for obtaining follicular cells and a device for carrying out this method

Introduction:
We developed a specialized device dedicated to a simple, fast and non-invasive withdrawal of follicular cells from mammals including human. Follicular cells are of epithelial origin and can be used for different veterinary or medicinal examinations including genotyping, pharmacokinetic and biomarkers studies, alopecia studies and for general experiments and research. These often require living cells with persisting proliferation capacity. A method of follicular cells withdrawal is, from the medicinal point of view, a form of skin biopsy but our method is not based on skin excision or needle. Even compared to blood collection, it is less invasive, brings minimum discomfort to the organisms and is also faster and cheaper.



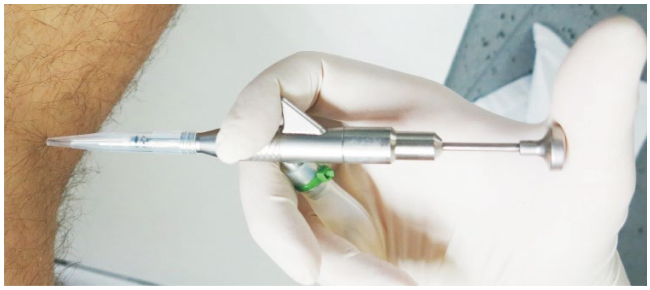


Technology description:
Our technological solution is based on a special withdrawal-gun which is connected to a source of vacuum on one end (standard vacuum cleaner can be used) and to disposable forceps made of inert, sterilizable material.The forceps capture multiple hairs and allow their controlled pulling including significant portion of hair nesting matrix rich for follicular cells. Such sample allows further processing with minimal logistic demands. A prototype of this device has been successfully tested for multiple applications on laboratory mice including genotyping, immunofluorescence and qPCR analysis of follicular cells after systemic and topical applications of various drugs, including cytostatics and senolytics.

Key features:
Presented product aims mainly on markets covering veterinary and, alternatively, also human research and health care in the category of non-invasive collection of biological samples for diagnostics. This includes:

- Genotyping
- Testing of biomarkers
- Pharmacokinetic studies
- Bio-equivalence studies on generic drugs
- Basic and applied research specializing on primary live tissues with persisting proliferative capacity

The device and method is also fully compatible with the conditions of sample collection in field.



Development status:
Prototype. Validation studies on patients and volunteers

IP protection:
CZ 304255
EP 2928382
US 14/649,785

Commercial offer:
Exclusive/non-exclusive license to the patents, related know-how and data

Ownership:
Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacky University, Olomouc

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More information is available upon signing a CDA/NDA. Please contact IMTM´s director (director@imtm.upol.cz) or the technology transfer office (tto@imtm.upol.cz)