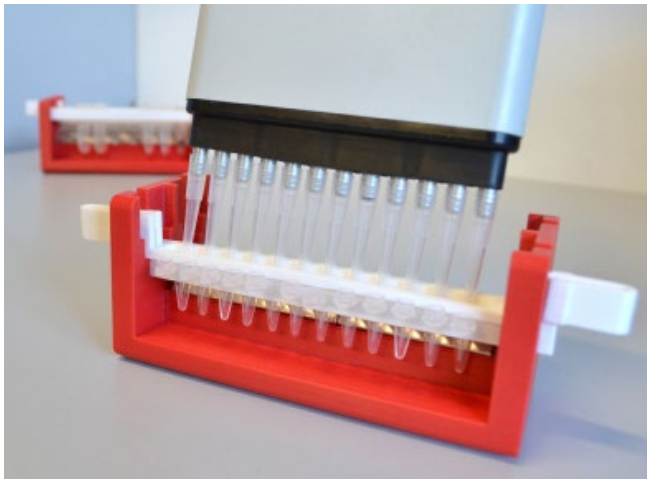
Magnetic Unitrap

Introduction:

The popularity of separation techniques based on magnetic particles has increased due to their proven benefits. The example is e.g. separation by means of ferromagnetic particles associated with extravidin used for isolation of substances containing biotin. Another example are the ferromagnetic particles associated with protein A or particles used for isolation of nucleic acids. These particles are also usable for separations of complexes associated with antibodies.

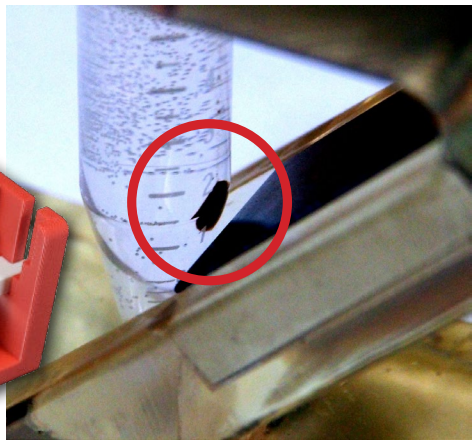
For magnetic separations special magnetic separators are usually used. The most often way of use is the placement of the vial with the samples with the ferromagnetic particles in the separator equipped with the vial holder and magnet. These separators are in most cases made only for one dimension of the vials. Some disadvantage is also the fact that the ferromagnetic particles are generally trapped on the large part of the vial wall including the part tightly neighboring with the bottom of the vial or the vial bottom itself.

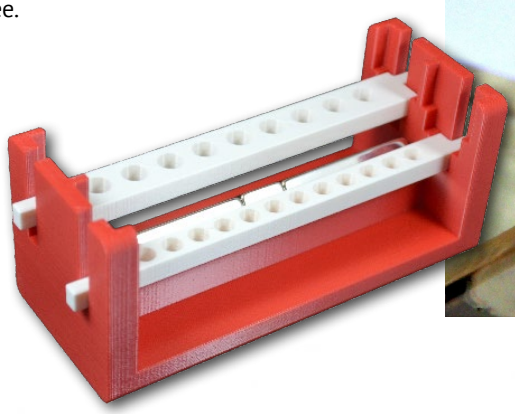


www.imtm.cz/magneticunitrap

Technology description:

The new sort of magnetic separators based on the patented technology of the mutual orientation of magnet and separation vials. A magnet to test tube orientation in the UniTrap Separators enables a stronger magnetic force to act upon magnetic particles and therefore enables very fast concentration of isolated particles. As the special orientation is used, the particles are concentrated in the narrow area of the vial wall and the same device can be used for at least two different sizes of vials. The patented orientation can be used in a large variety
of layouts. We offer two tested and optimized products (laboratory separators) with modern designs, which can be directly and immediately marketed. One of these layouts enables the use of multichannel pipettes and is designed for tubes with nominal volume 0.2 ml, 0.5/0.6 ml, 1.5 ml, 2 ml and 15 ml Moreover, it is possible to use 2 different removable plates and therefore, proceeds separation in 2 different sizes of tubes simultaneously. The maximum number of simultaneously used tubes for 0.2 ml, 0.5/0.6 ml, 1.5 ml,2 ml and 15 ml is 24, 18, 16, 16 and 10 tubes, respectively. The second layout enables separation either in 50 ml tubes or in 15 ml tubes. We also have manufacturing potential in cooperation with our own 3D printing unit and can adjust designs according to the needs of the licensee.





Development status:
Four types of prototypes.

IP protection:
CZ 306187
PCT/CZ2016/050006
EP 16713727.2

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

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

Contact:
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)