

The pluriBead® technology

pluriBead® is a patented technology for the separation of cells from fluid samples like blood, urine and liquor, but also from tissues like spleen or lymph. And what is unique worldwide: Various cell types can be isolated from whole blood at the same time, also from a quite small volume of sample material. Whole blood means that the blood has not been treated and originates, for example, directly from a living organism.

For that separation procedure, a specific characteristic of cells is made use of: They have antigens on their surface which bind to certain antibodies. Such antibodies are located on artificial catcher particles - the so-called beads. They are differently-sized and coated with specific „catcher-antibodies“. Different antibodies are used for each size.

When the beads are added to the sample, they bind the target cells within a few minutes due to their specific coating. Each target cell type is bound by different particle size groups.

Afterwards, the bead-bound target cells are separated according to the differently-sized beads using different mesh openings in the sieving cascade. All unnecessary and unbound cells will flow through the sieve cascade. Afterwards, the target cells can be removed from the beads in order to obtain pure target cells which can be used for further analyses. Such physical separation will yield highly vital cells. The whole process can be compared to the dry sieve method in soil study.

pluriBead® is faster

Only with pluriBead® it is possible to separate different cell types from the same whole blood sample at the same time. This method reduces the separation time from two to three hours by a third to less than 30 minutes. In case the cells are not removed from the beads, isolation is even possible in less than 10 minutes.

pluriBead® is easy

The components of the pluriBead®-kit are wrapped aseptically. The kit contains all parts which

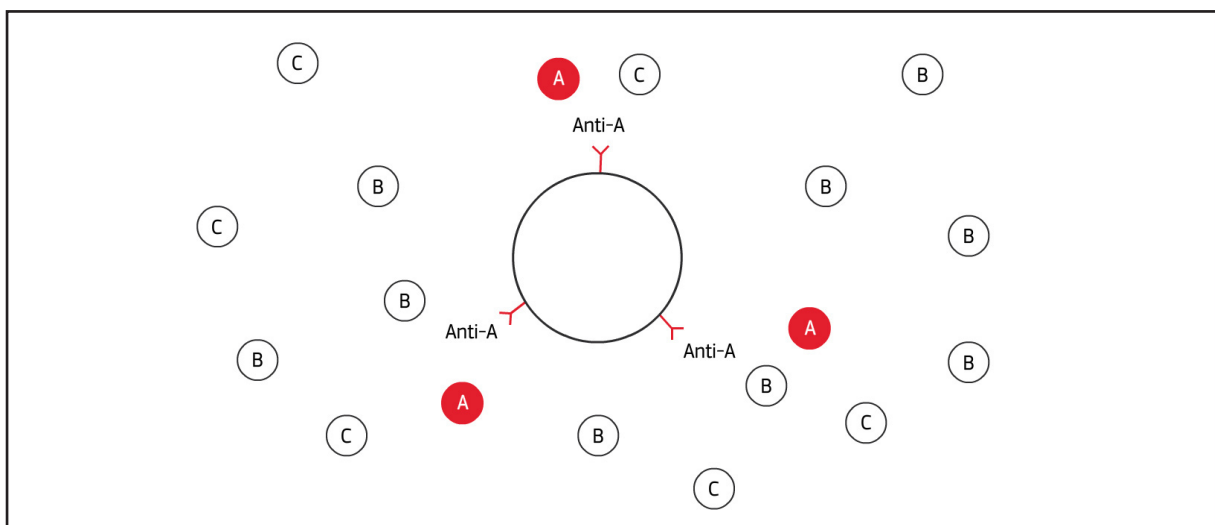
are necessary to immediately start with the separation process. Quite contrary to traditional isolation procedures, pluriBead® works non-magnetically.

pluriBead® optimizes diagnoses and therapies

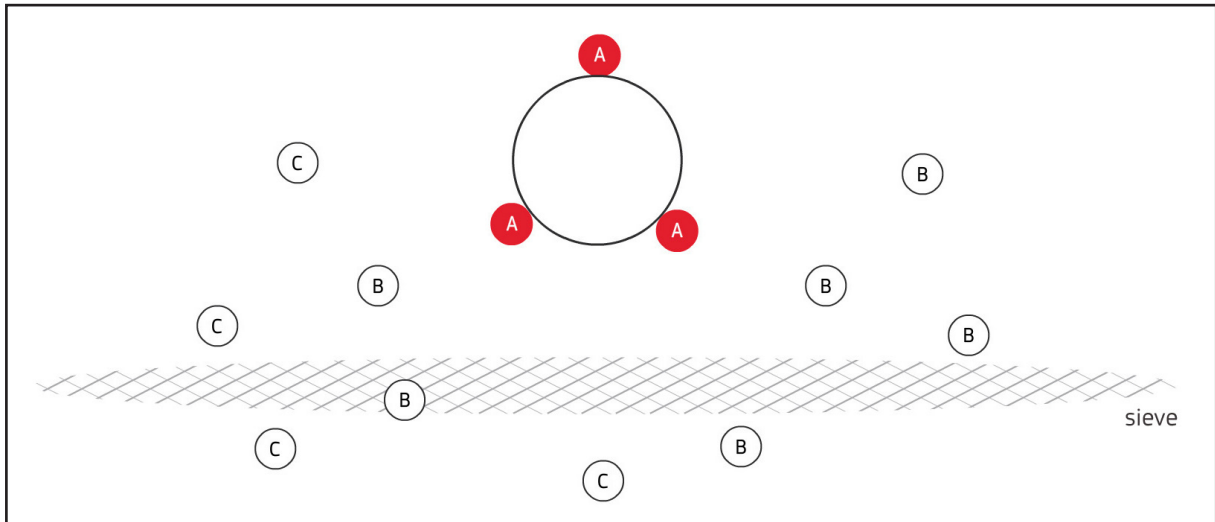
Only pluriBead® allows for the specific separation of cells and particles in the continuous extracorporeal cycle - if necessary also in combination with other bio-molecules like proteins. This facilitates new possibilities in diagnostics and therapy. In immunology, for example, important information regarding diseases like leukaemia can be obtained as with pluriBead® the tumor cells can be separated from the blood like in dialysis and can afterwards be examined.

pluriBead® opens up new perspectives in the therapy of diseases which, at the time being, can only be treated very insufficiently. Diseases which cause severe physical suffering to the patients and a high financial burden to the society. Such diseases are, among others, tumor diseases, rheumatoid arthritis, multiple sclerosis and allergies.

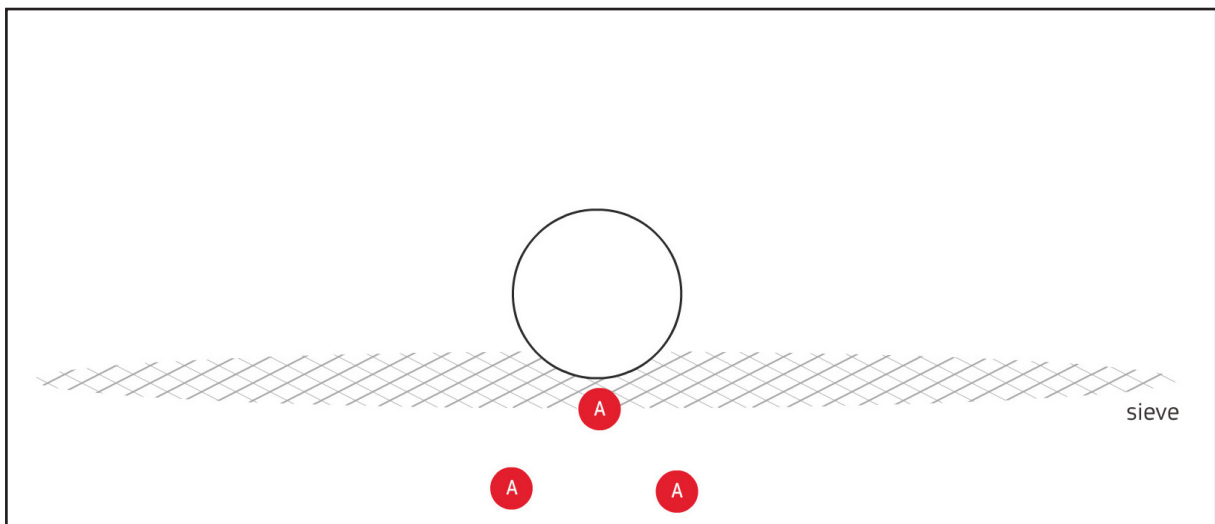
The procedure in three pictures:



1. The antigens of the target cells (A) bind to the antibodies (Anti-A) of the beads.



2. The bound target cells (A) will remain on top of the sieve, unbound cells (B and C) will flow through.



3. The target cells (A) are removed from the beads and can flow through the sieve into a suitable new tube. They have successfully been separated from other cells and are available for further analyses.