Affiblot screening device for antibody selection

Development status

Phase 2

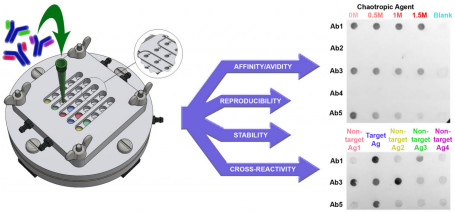
Feasibility study. There is a realistic design of the technology and the initial tests in the laboratory are leading to the specification of the technology requirements and its capabilities.

IP protection status

Czech patent granted, doc. No. 308111 European patent granted, doc. No. 3669983

Partnering strategy

Co-development, Collaboration, licensing



Institution

UNIVERSITY OF PARDUBICE

University of Pardubice

Challenge

The increasing use of antibodies in various research fields (e.g. biotechnology) is closely related to their ever-expanding market portfolio. Thus, the selection of a suitable commercial antibody for a given application, which has appropriate affinity, high specificity, reproducibility, and low cross-reactivity, becomes crucial for this research area. A certain part of antibodies on the market does not fulfill the mentioned criteria therefore it is recommended to test the antibody before starting the experiments with them.

Description

- Compact device based on standard procedure dot blot technology - Innovative lid with reagent reservoirs on the upper side and a pattern of drainage microchannels on the bottom side ensure all steps are inside the device - Comparison of antibodies from multiple perspectives without cutting the membrane (against dot blot) - Parallel evaluation of up to 5 antibodies - Affinity/avidity comparison - Determination of cross-reactivity with other biomolecules and whole cells (e.g. bacterial) - Batch-to-batch comparison Advantages of the technology: - Only smartphone, vacuum pump, and software for densitometric evaluation are needed - Speed of assay and reproducibility - Simplicity in interpretation - Antigen applied to the membrane can be both soluble (protein/peptide) and corpuscular (e.g. bacterial cell) - Easy application, disposal of reagents, and blotting membrane - Easy, reproducible, and precise SLA 3D printing of device - Patented solution - reduction of time-consuming steps used in standard methods such as ELISA or Western blot

Commercial opportunity

The end users are all research teams and laboratories that work with antibodies or other affinity reagents.