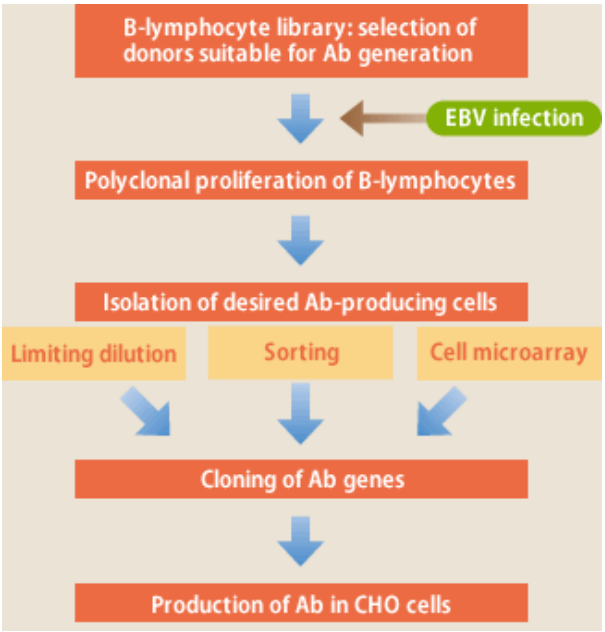
Production of Human Monoclonal Antibody

Our company uses EBV-treated human PBMC (Peripheral Blood Mononuclear Cells) to clone and obtain fully-human monoclonal antibodies

We offer assistance for the commercialization of drug discovery seeds and antibody development for drug candidates

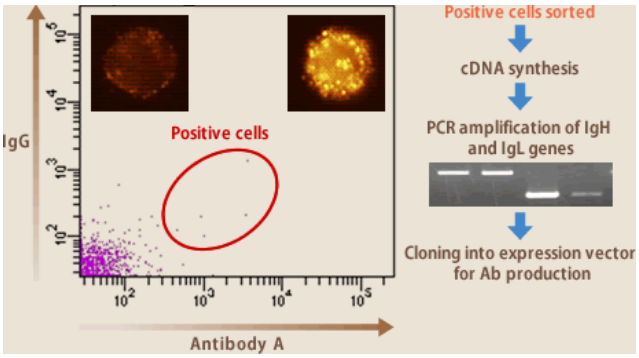
The benefits of our fully-human antibody production service



- We screen the possibility to obtain a target antibody from our company's PBMC library that originated from more than 100 healthy donors. If the possibility to obtain the target antibody from healthy donor library is considerably high, we can start the antibody screening from our specimens.
- For antibodies that are only expressed in specific diseases or antibodies that are difficult to be cloned from healthy donor specimens, it is possible to screen the PBMC specimens from the costumer. In such cases, we can start the DNA cloning step from the specimens that we receive.
- By using our optimized technologies (flow cytometry or micro array), the antibody producer cells can be concentrated or isolated such that it is possible to obtain the antibody DNA of interest even with a low number of the target antibody producing cells. These techniques dramatically increase the possibility to clone the target antibody DNA.
- Our company's antibody DNA cloning service emphasizes on obtaining antibodies with original activity, thus we normally only construct full-length heavy and light chains, and do not construct antibody derivatives such as scFv.

Flow Cytometry

Flow cytometry saves time and is an efficient way to collect positive cells without limiting dilution



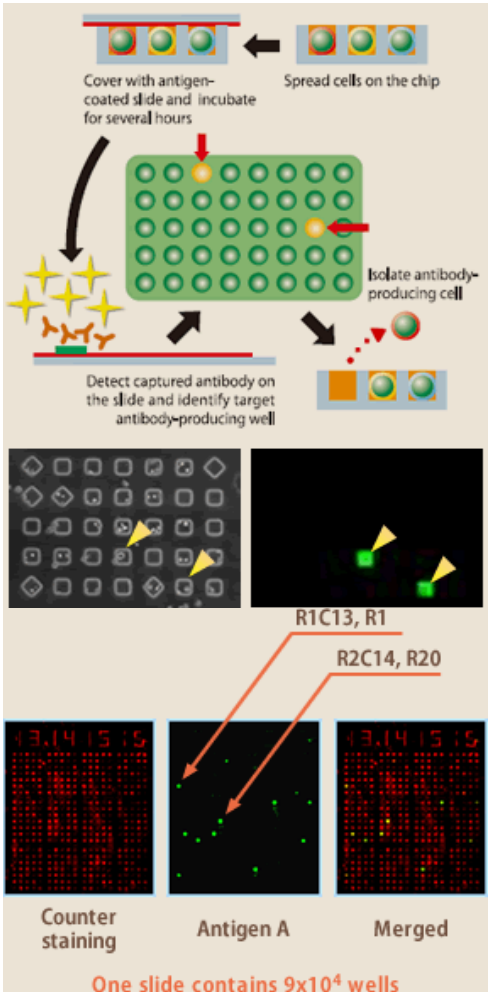
If it is possible to prepare the antigen that can bind to living cells, flow cytometry can be used as a powerful method to concentrate positive cells, as the B cells obtained from a candidate donor also express antibodies on their cell surface. By the introduction of this sorting method, it is now possible to quickly separate and recover the B-cells that produce the target antibodies without the time-consuming limited dilution method.

Cell Micro Array

Strategic isolation of particular antibody-producing B-cell by cell microarray system

Evec's original cell micro array method was developed to isolate positive cells that produce the antibody of interest. The method is performed by dropping an antibody-producing cell into each of 90,000 wells in a micro array chip, followed by identification of positive wells using a slide glass coated with the antigen.

As each positive well contain single antibody-producing cell, it is possible to isolate each positive cell by using a capillary, followed by single-cell RT-PCR to isolate and sequence the antibody DNA fragments. Because it is possible to clone the antibody DNA with only 1 positive well, theoretically cloning can be performed although the possibility of obtaining positive cell is only 0.01%. Furthermore, as the cell micro array isolates antibody DNA from single cells, the identification of positive genes and the pairing of light and heavy chain can be performed rapidly.



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