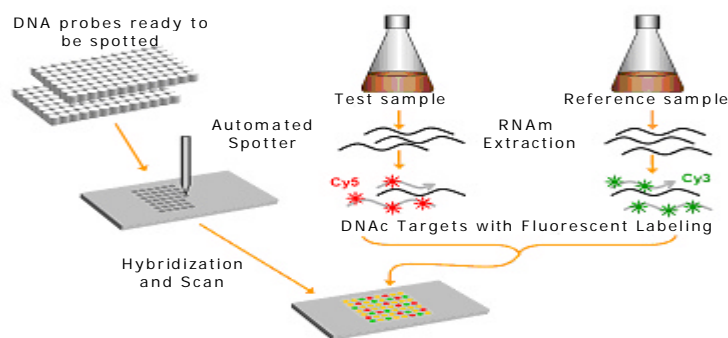


## What is the biochip principle ?

The biochip consists of "probes" (DNA, RNAi, proteins fragments, ...) represented by a point on a support (chip). These "probes" bind very specifically the "targets" (complementary gene fragments or specific ligands) present in the biological samples to test.

The contact between the probes with their targets is executed thanks to the hybridization phenomenon and can be highlighted by fluorescent detection (a labeling system of the sample by means of fluorescent labels having been carried out beforehand).



The target identification and the signal quantification are then made with an image acquisition system (biochip scanner) and its associated microarray image analysis software. The obtained results are then validated on the statistical level and interpreted in a biological context.

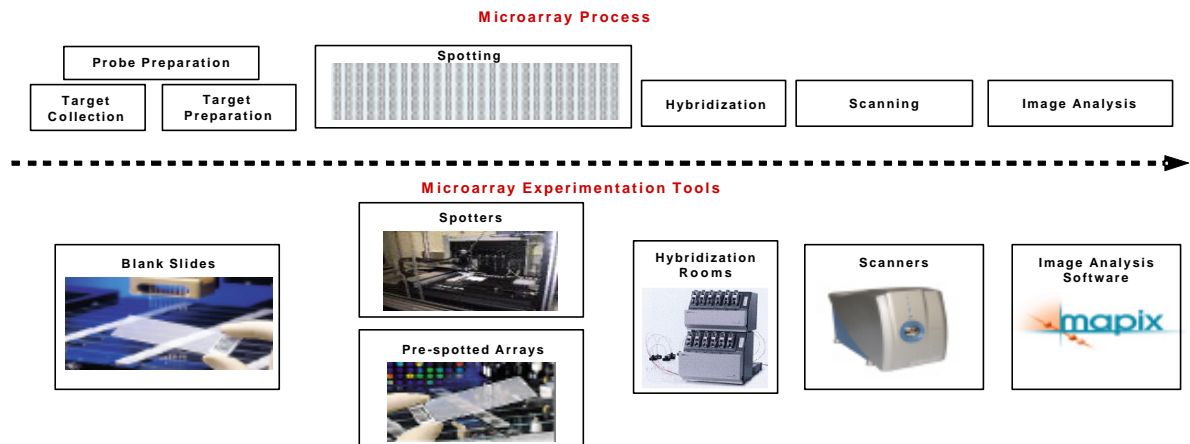
The biochip use requires to perform 3 major stages:

- The sample preparation and its labeling. This stage requires the use of extraction and labeling kits as well as DNA and RNA quantification instruments which are not specific to biochips since they are used for example with real time PCR technology.

On the other hand, the following stages require biochip specific instruments:

- Hybridization requires manual or automated hybridization rooms and washings are carried out thanks to specific buffers.

- The image acquisition and analysis impose high performance microarray scanner and fast and reliable microarray image analysis software use.



For more informations, please contact: **INNOPSYS**