

## LA MÉTHODE SMALL MOLECULE MICROARRAY (SMM)

Aurelie

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Bonjour,

Pourriez-vous m'expliquer en quoi consiste la biotechnologie SMM (small molecule microarray) ? En quoi diffère-t-elle de la technologie microarray basique ?

Merci beaucoup !

LaurianeC

Message envoyé le : 03 Avril 2014

Bonjour,

La technique micro array utilise sur puce des sondes ADN vouées à hybrider d'autres molécules d'ADN dans le but d'étudier des séquences d'ADN, des niveaux d'expression... Le SMM part de ce principe mais avec d'autres utilisations puisque permettant l'étude des interactions entre des protéines et leurs ligands par exemple. Ce ne sont alors plus des sondes ADN qui sont fixées sur puces mais les potentiels ligands dans ce cas (les «petites molécules»). Voici l'extrait d'un article que je serai ravie de vous envoyer si vous me communiquer votre adresse mail par message privé.

«Small molecules are essential components of a growing toolbox used to study cellular processes and develop effective therapies. Advances in genomics and proteomics have led to the identification of a vast number of biomolecules implicated in human disease. Our understanding the function of these new targets will benefit from small molecule probes that can bind directly to them and modulate their activity.

Since the introduction of DNA microarrays, which allowed scientists to rapidly assess the expression of thousands of genes, the microarray platform has played a pivotal role in understanding complex biological systems [1]. By immobilizing small molecules onto microarray slides, Schreiber and coworkers realized they could discover protein-small molecule interactions using this format [2]. Over a decade after the creation of the first small-molecule microarray (SMM), this unbiased approach to detecting ligand-protein interactions has become commonplace in both academia and industry [3, 4, 5 and 6].

In recent years, SMMs have also moved from simple ligand discovery applications to include new uses in functional proteomics.



Organic compounds, natural products, peptides and carbohydrates have all been immobilized on SMM slides using a range of surface chemistries. In addition, a variety of biomolecules can be incubated with SMMs, including purified proteins, cell lysates, antibodies, Ribonucleic acids (RNAs) and even living cells.»

Cordialement, Lauriane

