



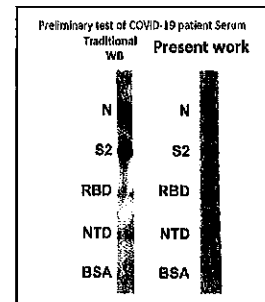
一種快速生化檢測之設備與圖譜試片

提案人：王安邦

單位：國立臺灣大學 應用力學研究所

簡歷：(可列出相關連結，例如系所、研究室網頁)

<http://bernoulli.iam.ntu.edu.tw/>



市場及需求:

據經濟部的估計，臺灣檢驗試劑每年市場規模約 30 億元，而根據 Global Information 預估，2023 年全球體外檢驗試劑(IVD)市場將達到 879.3 億美元。以 2018 年為例，其中免疫檢驗試劑占比達 23%，在檢驗試劑市場仍為主流。在免疫檢驗中，當需要塗佈的生化分子屬於微量且高單價的物質時，如何能快速且均勻塗佈微量生化分子成為重要課題。尤其今年全球爆發新冠肺炎疫情，快篩試劑及方法成為炙手可熱的話題，世界各國都在研究如何能夠快速穩定且準確地提供快篩結果。本發明提供了一個快速高效的塗佈機台，正好能符合這方面的需求。日後也可以根據需要整合進檢測相關機台(如冷光顯影機台)，預期可以做到提供全球最快速且具實驗室等級準確性快篩結果之服務。

技術摘要(含成果):

與傳統西方墨點法相比較，本方法將可從 Blocking 到 Detection 的所需時間縮減到僅需 5-10 分鐘(傳統上需 3-16 小時)，同時也因毛細塗佈而可以大幅減少所需試劑之用量。

優勢:

本發明最大之優勢為以下四點:試劑用量極少、反應均勻、快速檢測、操作簡易。本案快速生化檢測設備，搭配創新檢測圖譜快篩試片，可在十分鐘內快速完成實驗室等級高精準快篩與病況功能檢測。

競爭產品:

目前市場無此產品。

專利現況:

本技術已有相關專利

(1) Wang, A. B.; Lin, I. C.; Lu, F. Y.; Pan, P.T. Capillary Coating Devices and Methods, U.S. Patent 8257794B2, Feb 25, 2010.

(2) Wang, A. B.; Hsieh, Y. W.; Liu, Y. J. Coating Module, TW Patent I 496625, 2015.

聯絡方式(請不用填):

臺大產學合作總中心

Tel: 02-3366-9945, E-mail: ntuciac@ntu.edu.tw

本資料僅供國立臺灣大學專利/技術申請使用，嚴禁使用全部或部分內容於其他用途。若有疑問請與我們聯繫，我們將盡力協助您。



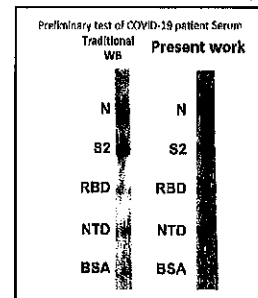
A fast biomedical detection device and pattern strip

PI : Prof. An-Bang, Wang

Institute of Applied Mechanics, National Taiwan University

Experience:

<http://bernoulli.iam.ntu.edu.tw/>



Market Needs:

According to the estimation from Ministry of Economic Affairs, the annual testing reagent market in Taiwan is about one hundred million USD. And based on the estimation of Global Information, the in vitro diagnostics (IVD) market is projected to reach USD 87.93 billion by 2023. In 2018, the immune test kits held up about 23% of the market, which indicates it's still dominating. In immune test, the most important part is how to use the least amount of antibody with uniform distributed reaction. In 2020, the outbreak of COVID-19 brings up the demand of diagnostic testing kit. With this invention, a quick, reliable method to complete this task can be offered.

Our Technology:

Comparing to traditional western blotting method, our method only takes 5 minutes from blocking to detection, while traditional method requires about 3 hours to overnight. Also, the pattern strip can offer the unmet need of the present rapid diagnostic kits.

Strength:

Our invention bring 4 advantages: the least amount of test sample/reagent, uniform-distributed reaction, fast diagnostic test, and easy to operate. A combination of test facility with specially designed test strip can offer the unmet information for clinic diagnostics.

Competing Products:

No similar product in the market.

Intellectual Properties:

- (1) Wang, A. B.; Lin, I. C.; Lu, F. Y.; Pan, P.T. Capillary Coating Devices and Methods, U.S. Patent 8257794B2, Feb 25, 2010.
- (2) Wang, A. B.; Hsieh, Y. W.; Liu, Y. J. Coating Module, COATING MODULE, US Patent No. 9492836B2, 2016.

Contact (do not need to fill out):

Center for Industry-Academia Cooperation, NTU
Tel: 02-3366-9945, E-mail: ntuciac@ntu.edu.tw

This information herein is intended for potential license of NTU technology only. Other usage of all or portion of this information in whatever form or means is strictly prohibited. Kindly contact us and we will help to achieve your goal the best we can.