高通量、同步及快速檢測反芻動物性狀基因組之平台

提案人： 王佩華 教授
單　位： 國立臺灣大學　動物科學技術學系/研究所
簡　歷： **https://scholars.lib.ntu.edu.tw/cris/rp/rp07191**

市場及需求:

目前在臺灣對於乳牛及羊隻（反芻動物）的基因選種方面，並未如 DHI 制度或是種豬中央檢定站的基因篩選有效的實施，因此目前在臺灣對於乳牛及羊隻（反芻動物）的基因選種多為零星的專案，進行反芻動物的基因檢測及選拔。但是之前不論是在零星的專案進行有利基因的篩選，多使用單一基因的 PCR-RFLP(或 MS-PCR) 檢測方法進行檢測，不僅檢測耗時、費用較高及使用人力較多，農民需要花費較多的費用及等待時間，才能獲得相關豬隻基因檢測結果。因此本技術乃研發一高通量、同步、準確及快速的基因檢測平台，且檢測費用較現有檢測平台費用便宜許多，可提高酪農對於分子育種的意願，此亦將進一步加速臺灣乳牛及羊隻性能改進及選拔的速度。

技術摘要(含成果):

本專利所研發，針對臺灣乳牛及羊隻（反芻動物）進行有利基因的篩選，萃取其 gDNA 後，以豬隻高通量、同步、準確及快速的基因檢測平台，應用全基因組關聯分析（GWAS）進行臺灣反芻動物有利基因差異性候選基因檢測及分析。初步結果發現，本技術可所獲得的反芻動物基因檢測結果與先前傳統技術所檢測結果相同。

優勢: 本技術相較於先前技術，具有高通量、同步、準確及快速的基因檢測平台，費用較低及具有基因檢測數目的擴充性，且不會影響其同步性及準確率。

競爭產品: 目前國內、外尚無相似的檢測平台。

專利現況:

1. 本技術目前並無相關專利，而且目前經初步查詢中華民國專利資料庫並無相關專利。
2. 本研究團隊具有數十年研究經驗在豬隻及反芻動物基因檢測的研究方面，而且已經發表果數十篇有關豬隻及反芻動物基因檢測相關的試驗研究報告。

聯絡方式(請不用填):

臺大產學合作總中心　Tel: 02-3366-9945,　E-mail: ordiac@ntu.edu.tw

Title of Invention

PI： Prof. Pei-Hwa Wang
Department of Animal Science and Technology, National Taiwan U, Taiwan
Experience: https://scholars.lib.ntu.edu.tw/cris/rp/rp07191

Market Needs: At present, the genetic selection of dairy cows and goats (ruminant) in Taiwan was not as effective as the DHI system or the genetic screening of the central performance testing station. Gene testing and selection were mostly sporadic projects for ruminants. However, whether it was in sporadic projects to screen for favorable genes, PCR-RFLP (or MS-PCR) detection methods of single genes were mostly used for detection. Not only was the detection time-consuming, costly, and labor-intensive, farmers needed to spend more time. More expenses and waiting time were required to obtain relevant genetic testing results of testing animals. Therefore, this technology is to develop a high throughput, synchronous, accurate and rapid genetic testing platform, and the testing cost is much cheaper than the existing testing platforms. It could increase the willingness of farmers using molecular breeding.

Our Technology: This patent is aimed at screening the beneficial genes of the dairy cows and goat for breeding in Taiwan. After extracting their gDNA, it uses a high-throughput, synchronous, accurate and rapid genetic testing platform for dairy cattle and goat and applies whole-genome association analysis (GWAS) to ruminant herd. The detection and analysis of favorable gene difference candidate genes. Preliminary results found that the genetic test results of dairy cows and goats obtained by this technology are the same as those obtained by the previous traditional technology.

Strength: Compared with the prior technology, this technology has a high-throughput, synchronous, accurate and rapid genetic testing platform. The new technology has lower cost and scalability of the number of genetic testing, and will not affect its synchronization and accuracy.

Competing Products: No related competing products.

Intellectual Properties:

1. There is currently no related patent for this technology, and there are no related patents in the patent database of the Republic of China after preliminary inquiry.
2. The research team has decades of research experience in pig and ruminant genetic testing research, and has published many research reports related to pig and ruminant genetic testing and phylogenetic relationship.

Contact (do not need to fill out):

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