一種在場快速檢測山羊關節炎腦炎(CAE)疾病的方法

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市場及需求: 山羊關節炎腦炎(CAE)疾病在臺灣為羊場(包括肉羊及乳羊)感染率極高的疾病，據調查報告顯示，臺灣羊場不論是肉羊場或乳羊場 CAE 的盛行率皆極高(約 80~90%)。農政單位建議羊場應每三個月進行健康監控篩選一次，並建議淘汰被檢出帶有 CAEV 的羊隻，以維持場區的清淨程度，本發明可使羊農能夠在場(on-farm)自行快速檢測羊隻的 CAE。另依農委會105年度第3季畜禽統計調查結果顯示，臺灣在養羊隻頭數為15萬4000多頭，若依每三個月需檢測一次，市場每年潛在需檢測的個體將達 60 萬頭次。

技術摘要: 本發明係提供一種在場快速檢測山羊關節炎腦炎(CAE)疾病的方法：將自羊隻所取得血樣，在場經簡易萃取套組處理後，利用本發明所設計的探針(probe)及引子對(primer)於室溫中進行 CAEV 基因部分片段大量複製，最後以檢測試驗片（如所附圖樣）進行羊隻是否感染之檢測判定。
本發明另提供山羊關節炎腦炎(CAE)疾病檢測套組。

優勢:目前羊隻 CAE 檢測多需於採樣後送至實驗室進行 ELISA 檢測，尚無相類似的在場(on-farm)快速檢測山羊關節炎腦炎(CAE)疾病的方法及套組。
本檢測方法及套組，在進行檢測的過程中，具有無須使用儀器設備、檢測時間短、檢測價格相較便宜的優勢。

專利現況:
(1)本技術相關專利正在申請中。
(2)本研究團隊具有數十年在羊隻基因檢測的研究經驗。

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A rapid method for the detection of caprine arthritis and encephalitis (CAE) disease on-farm

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Market Needs: In Taiwan, caprine arthritis encephalitis (CAE) disease for goat farm (including meat and dairy goat) is a high infection rate disease. According to the survey, the CAE prevalence rate of meat and dairy goat farms is very high (about 80 to 95%) in Taiwan. The farmers are suggested that goat farm should be screened once every three months for health surveillance and that the goat with CAEV infection are recommended to be eliminated to maintain the cleanliness on-farm. The present invention would allow goat farmers to detect CAEV infection on-farm rapidly. According to the survey of COA in 2005, the number of goat is 150 thousand heads in Taiwan. If the herds are tested once every three months, 600 thousand heads of goat will need to be tested in every year.

Our Technology: The present invention provides a method for rapid detection of caprine arthritis encephalitis (CAE) disease on-farm. After extracting the gDNA from the goat blood sample using DNA extraction kit, a part of CAEV gene fragment is amplified using specific probes and primers at room temperature. The final detected CAE of the specimen and determination using strip (such as the attached drawing). The invention also provides a kit for the detection of caprine arthritis encephalitis (CAE) disease.

Strength: At present, caprine arthritis encephalitis (CAE) detection of the blood samples of goat needs sent to the laboratory for ELISA testing, there is no similar rapid detection of CAEV infection methods which were well-developed on-farm. There is no need for thermal cycling equipment for field detection using this kit, and the price of relatively cheap.

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