



Pharmelp counterfeit drug analysis project gains pace

Phil Taylor
24-Oct-2010

A European project which aims to bring affordable equipment for counterfeit and substandard medicines analysis to countries in the developing world is making progress, with new machines due to be installed in Cambodia and Congo shortly and several more on the way.

The initiative, called Pharmelp, has designed low-cost capillary electrophoresis machines which can easily be set up and operated and provide an effective means to analyse commonly counterfeited medicines. The machines are designed to make use of cheap, easily-sourced parts and do not need costly consumables.



Pharmelp was featured in *SecuringPharma.com* earlier this year shortly after it installed its first prototype ECB (Electrophorèse capillaire Budget) machine in Mali, a country suffering under a particularly heavy burden of medicines counterfeiting.

Since then, there has been increased attention to the initiative among the scientific community, helped by peer review publications in the *Journal of Pharmaceutical and Biomedical Analysis* (December 15, 2010) and *Chemistry Today* (September/October 2010).

Serge Rudaz of the University of Geneva in Switzerland - who is leading the project - told *SecuringPharma.com* that the two publications have been "a nice opportunity to validate the concept with the scientific community."

An updated version of the ECB machine - ECB2 - will be installed in Cambodia in February at the National Health Product Quality Control Center in Phnom Penh, while a third will be installed in Congo "sometime in the springtime of 2011," he said.

Another five machines are due to be constructed, and discussions are ongoing with other countries, including Burkina Faso, Iraq and Madagascar, to identify the next recipients.

"According to numerous official sources, in some pharmaceutical wholesalers in African countries, the proportion of counterfeit medicines has reached 80 per cent," according to Rudaz, who notes this situation is exacerbated due to a lack of suitable analytical equipment.

Capillary electrophoresis could be used routinely to screen medicines at entry into a country, which is particularly important for some developing markets where the bulk of medicines are imported.

The ECB2 machine is equipped with a new detection system based on long-lasting light-emitting diode (LED) technology which has been able to cut the cost of the system from around \$7,000 to approximately \$5,000. Currently, commercial capillary electrophoresis systems can cost 15-times that amount or more.

In tests, the ECB2 system has been shown to be useful for the quantitative determination of the antimalarial drug quinine, the diuretic furosemide and the antibiotic combination sulfamethoxazole/trimethoprim, as well as a range of HIV medications. All of these medicines are known to be in the counterfeiters' portfolio. The studies have shown that capillary electrophoresis can be as effective as other technologies such as high-performance liquid chromatography (HPLC), but uses far fewer resources, a smaller sample and is cheaper per test.

Meanwhile, Rudaz has started to put ECB2 through its paces in analysing the World Health Organisation's Model Lists of Essential Medicines in order to expand the number of methodologies that can be used with the instrument.

"We must try to demonstrate that capillary electrophoresis is able to handle an important number of these selected drugs," said Rudaz. "If we succeed, I think there will be something important to discuss."

Related articles:

[Pharmelp offers fake drugs know-how to labs in poorer nations](#)