

A kit that promptly measures the cadmium concentration in rice and soil with ease.

Simple Cd Assay kit—Cadmierre

Features

- It takes only approximately 90 minutes for cadmium (Cd) assay with Cadmierre, while a conventional instrumental analysis requires 1 day or more.
- The Cadmierre ensures ease of cadmium assay with no special analytical techniques.
- The Cadmierre was approved as a simple soil analysis method by the Tokyo Metropolitan Government (March 2008).



Cd assay kit (Cadmierre)

Overview

(Technical principles, actions, etc.)

The Cadmierre is an immuno-chromatographic type assay kit incorporating a measuring block that utilizes antigen-antibody reaction. Immuno-chromatography is a simple, quick, and yet highly reliable analytical method that does not need any large-size analytical instrument.

In order to create the immuno-chromatographic type assay kit (Cadmierre) for the detection of cadmium (Cd), it was necessary to use an animal-derived antibody recognizing and binding to Cd. The Kansai Electric Power Co., Inc. uniquely made a Cd antibody and developed the world's first immuno-chromatography that detects Cd with the Cd antibody used. The immuno-chromatography makes it very easy to detect Cd. When a sample solution is dropped onto a sheet of test paper, a red band will appear in several tens of minutes on the test paper, and the concentration of Cd is detected from the density of the red band (see fig. 1). This method allows the detection of Cd in ppb units. The principle of immuno-chromatography is shown in fig. 2. The Cd-concentration dependent color change can be visually checked. The color density can also be quantitatively digitalized with a dedicated reader.

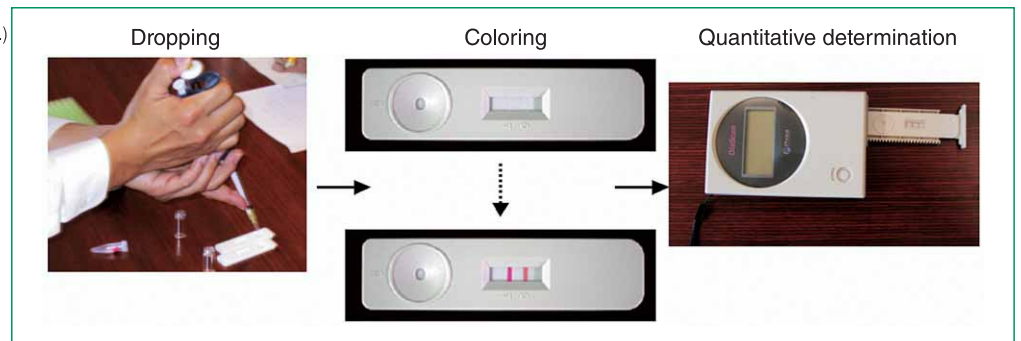


Fig. 1 Flow of Measurement

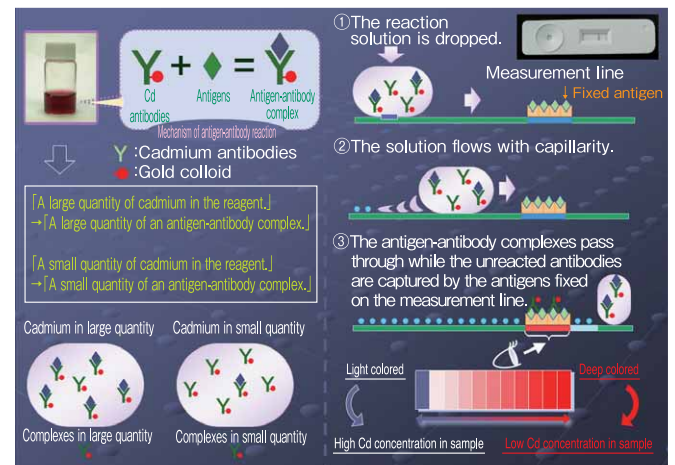


Fig. 2 Immuno-chromatographic Principle

Introductory Track Record

- Track record of 2008**
Kit sales: About 4,000 kits
Users: Food-related manufacturers and self-governing bodies

Effects

- It is time consuming and labor intensive to analyze Cd in agricultural products, such as rice, especially when the sample numbers are large. Besides, it requires some special skills for the operation of analytical instruments. The Cadmierre allows the measurement of Cd in such cases in a short time with no special skills required.
- Due to its low cost and time saving performance, the use of the Cadmierre makes it possible to measure Cd contained in the soil on a narrow block basis. Therefore, a drastic reduction in soil cleanup cost is expected.

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