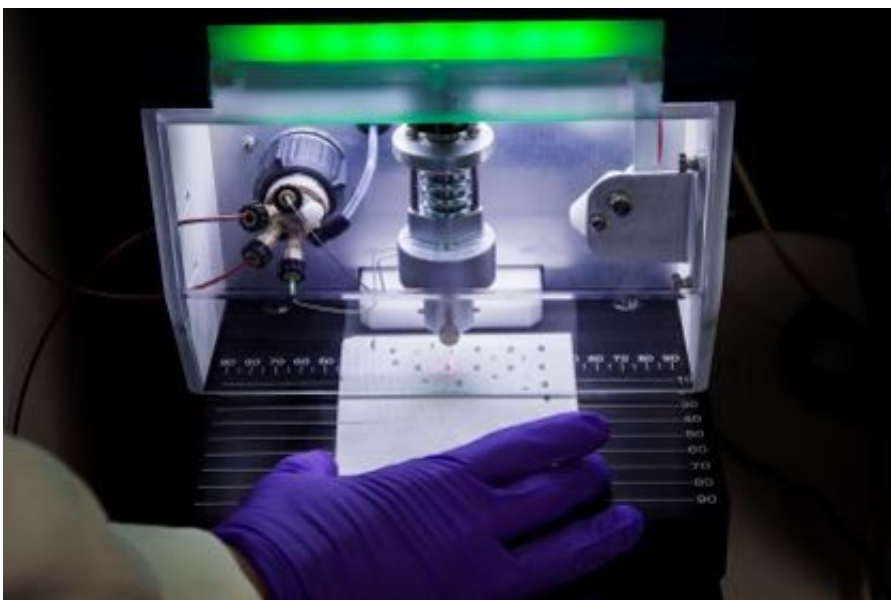


Researchers reveal new test for cocaine in urine and oral fluid

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Advion tester used to detect cocaine. Credit: Advion

Academics in the University of Surrey's Department of Chemistry have developed a new diagnostic test for cocaine and benzoylecgonine (the main metabolite for cocaine) in urine and oral fluid. The research, which was conducted with collaborators Advion Ltd and Surrey Borders Partnership NHS Foundation Trust, is published in *Analytical Methods* on 21 November.

For the first time, the researchers have been able to prove that it is

possible to confidently detect levels of cocaine and their metabolites using a compact 'mass spectrometer' (a chemical-based analytical technique). The test uses chromatography to separate cocaine from other compounds and can not only detect the presence of cocaine but also give [quantitative data](#) about the amount of cocaine a person has ingested.

The research was conducted by the University of Surrey, in collaboration with Advion Ltd and Surrey Borders Partnership NHS Foundation Trust, is published in *Analytical Methods*

The test was found to offer a level of sensitivity below the cut-off level normally used for oral fluid drug testing, meaning that it can detect even low levels of cocaine in a person's urine or oral fluid. The technique potentially offers an effective solution for scenarios where a rapid test is required. This could include roadside testing by police of motorists, and also [drug testing](#) in the workplace and in prisons.

While there are a number of portable tests for cocaine commercially available, these are mainly based on antibody reagents, which cannot offer quantitative data and - since the cocaine antibody can bind to something that is not [cocaine](#) - can give false positive results.

The research paper's lead author, Mahado Ismail of the University of Surrey, explained, "Surface mass spectrometry is used in a wide range of disciplines to obtain chemical information from the surface of a sample. However until now it has not been possible to translate this method to low cost, portable testing. This new method, which extracts analytes from a surface and separates them using chromatography, has been shown to provide a sensitive, accurate result. Our next step will be to test the efficacy of the system for monitoring other drugs of abuse, while we are also looking for follow-on funding to further develop the [test](#)."

Provided by University of Surrey

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