Application Note 410000056-a

Counterfeit Adderall Pills Identification with TacticID Mobile

Adderall is a combination medicine that is designed to treat attention deficit hyperactive disorder (ADHD) in children and adults. Adderall can improve attentiveness and alertness, and may improve behavior issues. Adderall contains amphetamine and dextroamphetamine salts and is a Schedule IIN substance in the United States, meaning that it is a narcotic that has a medical use, but also has high potential for abuse and physical and psychological dependence.[1]

In March 2021 the U.S. Drug Enforcement Agency issued a warning for the New England region stating that counterfeit Adderall pills being circulated throughout New Hampshire contain the highly addictive drug methamphetamine.[2] The pills are purposely manufactured to appear the same as real Adderall tablets, including matching the color of the pill and the proprietary markings.

The TacticID Mobile® handheld Raman system from B&W Tek employs a 1064 nm laser, and can be used to quickly identify illicit substances in the field with the push of a button. The TacticID Mobile is able to suppress fluorescence and can identify more substances than traditional 785-nm Raman systems.

In this case study, a suspected counterfeit Adderall pill was measured with a TacticID Mobile and a traditional 785-nm handheld Raman system. The pill was measured directly using a point-and-shoot adapter on both systems.



RESULTS

Figure 1 shows the spectrum of the suspected counterfeit pill measured with a 785-nm handheld Raman system. The spectrum is overwhelmed by fluorescence, and the system does not yield any match to the library.

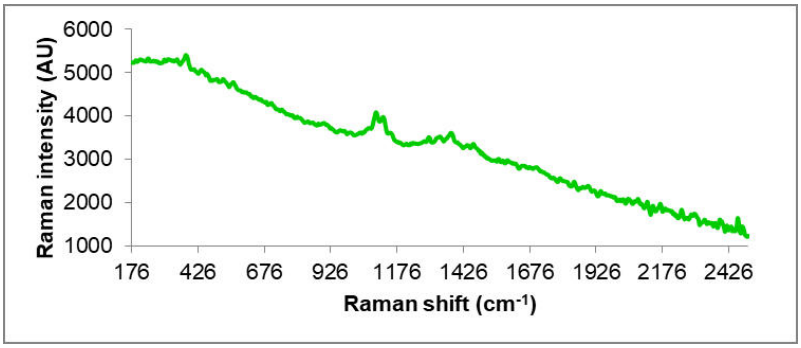


Figure 1. Raman spectrum of a suspected counterfeit Adderall pill collected with a 785 nm handheld Raman system

The counterfeit Adderall tablet was then measured on the TacticID Mobile. The result returned was a mixture of cellulose and caffeine, another stimulant not used in the manufacturing of Adderall (Figure 2). Figure 3 shows the spectral comparison of the suspected counterfeit pill and a confirmed Adderall pill found to contain lactose, the main excipient in the pill.

With its state-of-the-art fluorescence suppression, the TacticID Mobile gives those on the front lines a tool in the fight against dangerous counterfeit drugs.

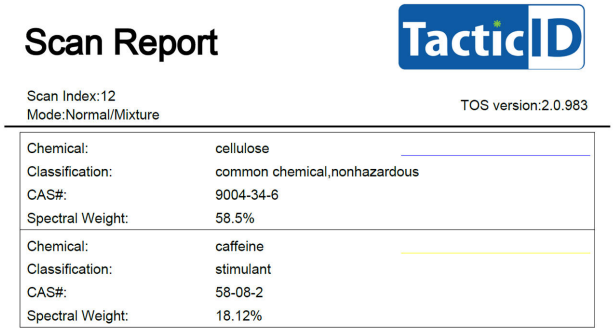


Figure 2. TacticID Mobile mixture results from suspected counterfeit Adderall

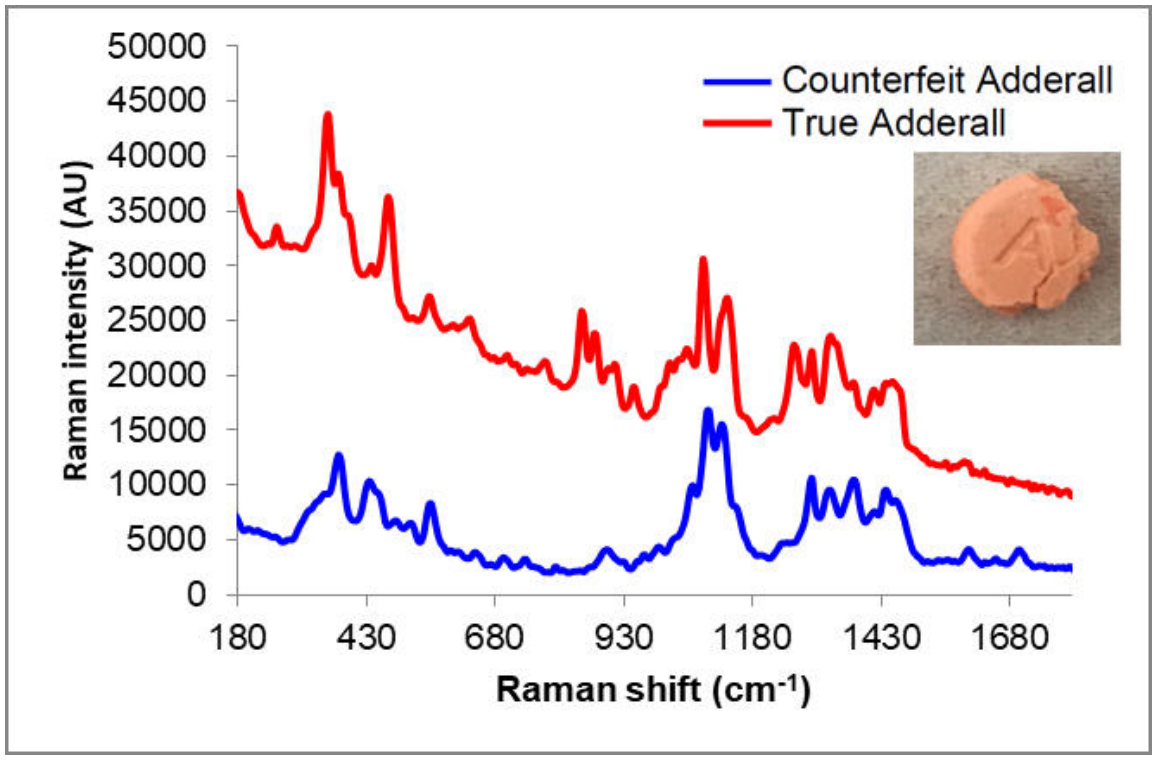


Figure 3. TacticID Mobile spectra of suspected counterfeit Adderall compared with a true Adderall pill (Insert: photo of suspected counterfeit pill. The color and markings match true Adderall pills.)

REFERENCES

1. U.S. Department of Justice/Drug Enforcement Agency Diversion. Control Division. Controlled Substance Schedules. https://www.deadiversion.usdoj.gov/schedules/ (accessed April 2021)
2. WMUR9. Methamphetamine pills designed to look like Adderall found across New Hampshire. https://www.wmur.com/article/methamphetamine-pills-designed-to-look-like-adderall-found-across-new-hampshire/35867602 (accessed April 2021)

CONTACT

Metrohm Indonesia
Menara Batavia
10220 Jakarta Pusat
sales@metrohm.co.id

CONFIGURATION



TacticID Mobile

The TacticID® Mobile is an economical, ergonomic 1064nm handheld Raman spectrometer with targeted libraries for rapid, non-destructive identification of narcotics, hazardous chemicals, and suspicious materials. Designed for easy field operation by safety personnel, samples can be rapidly scanned directly through transparent containers, with identification results clearly displayed on the large, high-brightness and resolution touch screen.

The TacticID Mobile uses Raman spectroscopy to measure the molecular fingerprint of a sample that is identified with embedded spectral libraries of narcotics, precursors, toxic and common chemical, pharmaceutical drugs, explosives, and more. With point-of-need identification, first responders get actionable sample identification in less than a minute, accompanied with safety information (GHS and NFPA704), allowing for rapid response with greater certainty.

With the TacticID Mobile 1064 nm excitation laser, users can identify tough street samples, colored samples, and impure samples with minimal fluorescence interference. The system can be operated with the touchscreen and hard button interface for use even wearing protective gear. It has a compact design with ruggedized IP68 rubber protection, compliant with MIL-STD-810H drop test.

Additional information can be added with each scan including pictures, location tagging, notes, and other identifying information, giving a comprehensive report with all pertinent information in one document. User-created libraries and customization also available.