Conclusion of Validation Study of Commercially Available Field Test Kits for Common Drugs of Abuse

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The National Forensic Science Technology Center (NFSTC) is an integral part of the Federal Bureau of Investigation’s (FBI) bureau-wide effort to enhance the nation’s capacity to detect, identify, and analyze forensic evidence. The NFSTC provides innovative technology and training to improve the quality of forensic work and enhance our nation’s ability to combat crime. The FIDO (Field Identification of Drugs) program was developed as a comprehensive training program and materials to improve the ability of law enforcement agencies to respond to controlled substance crimes. The program was developed based on the results of an extensive validation study of the field test kits currently being utilized by law enforcement.

The NFSTC, in collaboration with the National Institute of Justice (NIJ), developed the FIDO program. The program was designed to address the need for a comprehensive training program and materials to improve the ability of law enforcement agencies to respond to controlled substance crimes. The program was developed based on the results of an extensive validation study of the field test kits currently being utilized by law enforcement.

The NFSTC partnered with the Rural Law Enforcement to train personnel to perform presumptive tests on certain controlled substances. The program is comprised of a comprehensive training program and quality assurance system that provides a guide to law enforcement agencies on how to select, use, and interpret field test kits for the detection of controlled substances.

The results of this validation study will provide law enforcement agencies with data to enable them to select the test kits best suited to their needs. Information is provided with respect to measured criteria as well as corollary observations regarding test kit quality control, safety, and color. Results of this study will be included in the Best Practices Guide provided by NFSTC to all interested parties.

**Materials and Equipment**

- **Samples** prepared consisting of pure drug standards, pure cutting agents, and mixtures.
- **Field test kits** used for the detection of controlled substances.
- **Color reference targets** included in the validation study.
- **Environmental conditions** under which the test kits were evaluated.
- **Spectrophotometer** used for the analysis of color.
- **Chemical reagents** used for the detection of controlled substances.

**Results**

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**Conclusion**

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**Discussion**

- **Specificity**
- **Sensitivity**
- **Ease of Use**
- **Cost Effectiveness**

**General Observations**

- **Accuracy**
- **Reliability**
- **Portability**
- **User-Friendliness**

**Method**

**General Procedure**

- **Controlled substances** used to evaluate the performance of the test kits.
- **CPA**
- **Cot**
- **Cosemo**
- **Cot-Simpl**
- **Cot-2000**
- **Cot-5000**

**Deviations from General Procedure**

- **Test kit specificity** was determined using 15mg samples.
- **Test kit sensitivity** was determined using 0.5mg samples.
- **Test kit reproducibility** was determined using 0.5mg samples.

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