

# Counterfeit Pharmaceuticals:

## On the spot detection using portable NIR spectroscopy

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*Worldwide, 10% or more of all drugs are counterfeit, costing billions in lost revenue.*

***Can you tell the real capsule from the fake? Can you afford not to?***

While the extent of pharmaceutical counterfeiting varies among different regions in the world, there is consensus among regulatory bodies that the problem is a dangerous threat to the safety of consumers. Additionally, as counterfeiting techniques become more advanced, fakes are more easily passing undetected into the supply chain, causing industry to experience the financial impact.

Counterfeiting, fraud, and theft within the pharmaceutical industry supply chain range from conservative estimates of \$30 billion to more than \$50 billion in annual losses to corporations, according to market studies by organisations such as the FDA and IMS Health. The FDA has established the Counterfeit Drug Task Force as a new initiative to combat this growing problem and more aggressively protect consumers from counterfeit drugs. The new initiative includes exploring the use of modern technologies and other measures that will make it more difficult for counterfeit drugs to get mixed up with, or deliberately substituted for, safe and effective drugs.

To help in addressing this issue, ASD (represented in the UK and Ireland by Analytik Ltd) released its revolutionary RxSpec<sup>®</sup> near-infrared (NIR) technology for drug verification in high-volume Central Fill and Mail Order pharmacy operations. The RxSpec<sup>®</sup> 700z system (See Fig. 1) uses patented technology to directly examine a drug, while in the dispensing vial, and confirm that the correct drug and dosage are being dispensed by comparing the sample to a database of more than 700 NDCs.

Nearly every pharmaceutical product has a unique “spectral fingerprint” determined by its molecular composition, and NIR spectroscopy is an ideal vehicle for verifying authenticity. RxSpec<sup>®</sup> technology has successfully checked more than 2.5 million prescriptions since introduction, and has proven effective in distinguishing between pharmaceuticals that look virtually identical, but which have, in fact, different formulations or dosages.



Fig. 1 – ASD RxSpec 700z

With its true portability, ruggedness and independence of operation, the RxSpec<sup>®</sup> 700Z can easily, and cost effectively, remedy the escalating problem of fakes in the supply chain; helping to eradicate the unnecessary injuries and loss of life caused by harmful counterfeit drugs reaching consumers. The RxSpec<sup>®</sup> 700Z is destined to be a highly effective tool for pharmaceutical companies, Customs and Border Control agencies, and anybody in the drug distribution chain with concern for the efficacy of drugs dispensed to patients.

Benefits of the RxSpec<sup>®</sup> 700z include:

- True portability, AC/DC operation
- Rugged and robust
- Real-time results
- Non-destructive
- No sample preparation or waste
- Simple operation

### ***Pharmaceutical verification testing, when you need it, where you need it!***

To learn more about the ASD RxSpec<sup>®</sup> 700Z and other portable NIR spectroscopy solutions (See Fig. 2) please visit [www.analytik.co.uk](http://www.analytik.co.uk) (UK and Ireland) or alternatively visit [www.asdi.com](http://www.asdi.com).



*Fig. 2 –ASD LabSpec<sup>®</sup> being used for counterfeit drug detection*