

**Institute of Pharmaceutical Technology and
Regulatory Affairs
Faculty of Pharmacy
University of Szeged**

I. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science

Szeged, Hungary



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Development of anti-counterfeiting protection by laser technology,

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Counterfeiting of drugs is a real threat to public health. Substandard and falsified medicines also cause serious social and economic damage. According to the new reports from WHO (2017), in the low- and middle-income countries the failure rate of these medical products is approximately 10.5% (1, 2). This global problem is on the rise, particularly on the Internet where, more than 50% of drugs could be fake (3).

According to the directive 2011/62/EU to protect the pharmaceutical supply chain from falsified drugs, unique identification should be print on the packaging of prescription medicines (2). Our team is working on the technology to develop an individual traceability 2D code directly on the surface of the tablet. Patients with a mobile phone and installed suitable application should be able to authenticate these drugs.

Tablets were coated by HPMC and PMMA polymers. For marking tablets different types of lasers were used: ArF excimer laser, semiconductor laser and Nd: Yag laser. After marking polymer films, we made an analytical quality control of them to check if there occurred any change during the laser intervention, by SEM, Raman, Thermogravimetry and Mass spectrometry.

It was found out that excimer laser could be the right instrument for marking unique code on tablets against counterfeiters.

References

1. WHO. Surveillance and Monitoring System for substandard and falsified medical products [Internet]. 2017.
2. WHO. A study on the public health and socioeconomic impact of substandard and falsified medical products [Internet]. 2017.
3. UNICRI. Counterfeit Medicine and organised crime [Internet]. 2012