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Advances in Rapid Drug Detection Technology

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In this review we focus on some rapid drug detection technology which has been reported lately for the qualification and quantification of SFFC drugs. In addition, new characteristics and trends of SFFC drugs were listed and the solution was discussed.

Abstract: Spurious/Falsely-labeled/Falsified/Counterfeit (SFFC)drugs have become a major threat to public health, especially in rural areas of developing countries.The goal of this review is to provide an overview of rapid detection technologies for counterfeits recently reported, such as Near Infrared Spectroscopy, Near Infrared Chemical Imaging, Raman Spectroscopy, X-Ray Fluorescence, X-RayPowder Diffraction, Ion Mobility Spectrometry, Ion MobilityMass Spectrometry,Isotope Ratio Mass Spectrometry and visual analytical methods.The advantages of each of these detection methods are introduced. Examples of characterization of SFFC drugs using the detection technology mentioned are presented. In addition, new characteristics and trends of SFFC drugs are listed and the solution is discussed.

Keywords: Counterfeits; SFFC Drug; Rapid Detection

1. Introduction

The global situation of counterfeits and sub-standards has grown in recent years due to counterfeiting methods that are becoming more and more advanced and sophisticated. Because the counterfeit products look so similar to the genuine products, they not only deceive the medical doctors but also the pharmaceutical professionals. Some Spurious/Falsely-labeled/Falsified/Counterfeit (SFFC) products could meet the requirements of the official specifications, that is, they actually do contain the correct amount of the correct API. The World Health Organization (WHO) defines counterfeit drugs as those which are