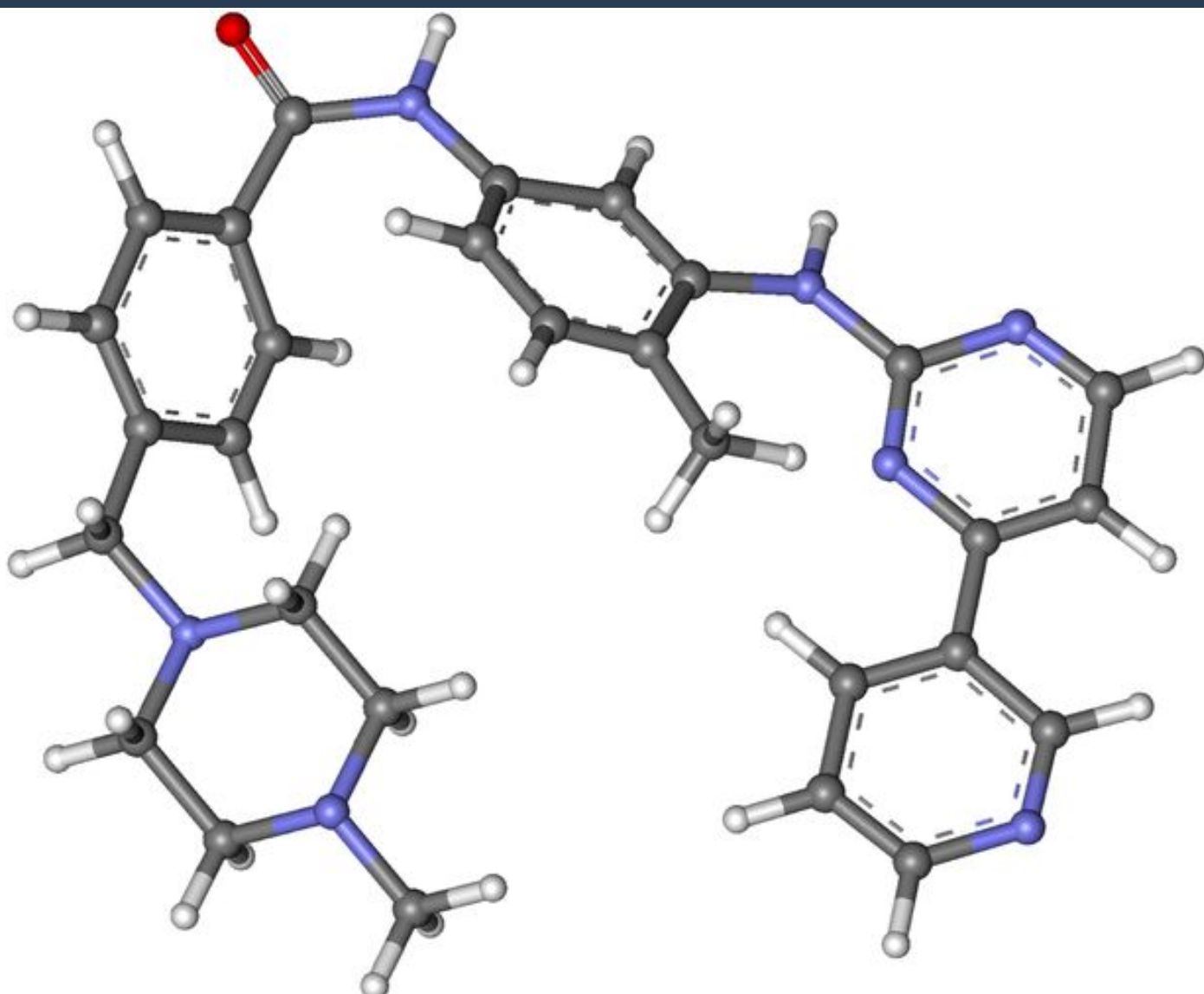


Chemotherapy: Point of Care Monitoring Device for Imatinib Drug

An electrochemical method for measuring the concentration of the anticancer drug Imatinib in patient's plasma to establish optimal dose



Header image provided by the university

IP Status

Patent application submitted

Seeking

Licensing, Development partner

Background

The effectiveness of many anticancer drugs varies greatly from patient to patient, with risks of incorrect dosages and adverse side effects. The invention provides for the first time an electrochemical method to measure the concentration of the drug Imatinib in patient's plasma and then to establish the optimal dose, with an on-site test readable in real time.

Tech Overview

Imatinib is an anticancer drug used in particular for the treatment of Philadelphia chromosome-positive acute lymphoblastic leukemia (**Figure 1**). The therapeutic drug monitoring (TDM) greatly improves the effectiveness of the cancer treatment and helps to personalize the doses and to limit side effects. Quick procedures are therefore essential. The patented electrochemical method provides a simple, fast and cost-effective protocol for the measurement of Imatinib concentration through plasma collection. Said method is suitable for the manufacturing of a device, that will make the test results readily and easily accessible at the patient's bed (point-of-care), avoiding lengthy delays required by specialized analysis. The method involves the selective extraction of the drug on a liquid-liquid extraction column and a following measurement of its concentration using an electrochemical technique, in particular adsorptive stripping voltammetry (**Figure 2**).

Benefits

- Simple protocol to be performed also by non-specialized personnel
- Rapid and accurate diagnosis on site
- Minimum amount of plasma required
- Results in real time
- Determination of drug concentration and therefore of treatment effectiveness for a timely adjustment of individual dosage

Applications

- Protocol to determine Imatinib concentration in patients' plasma
- Suitable for developing a portable device to perform therapeutic Imatinib drug monitoring

Opportunity

Open to collaborative projects to further develop the technology and/or licensing.

Patents

- IT: 102019000008808 PCT:IB2020/055545

Appendix 1

Figure 1

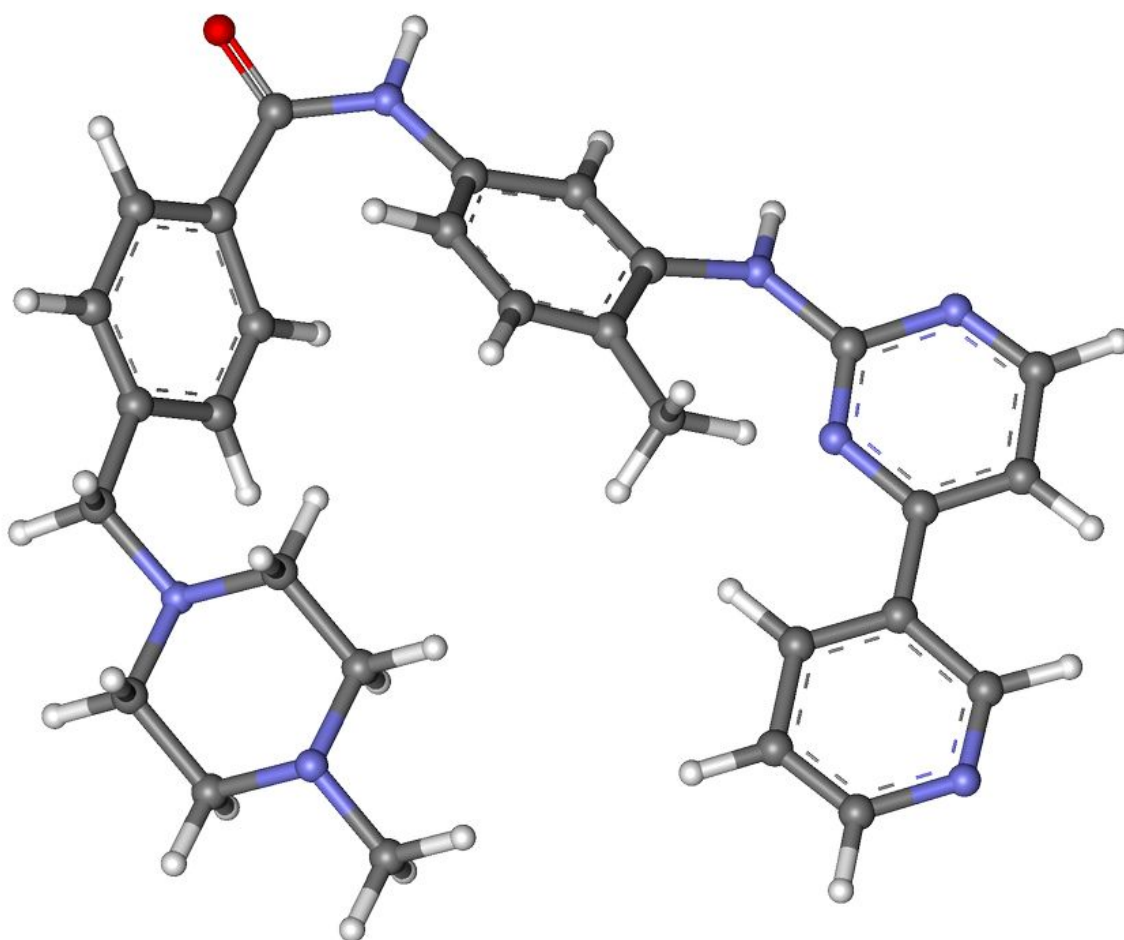


Figure 2

