

# Automated Drug Authentication

Innovation in medical product  
development for AstraZeneca

**SAGENTIA**



**AstraZeneca asked us to develop an automated drug identification system for its Diprifusor product – a target controlled infusion (TCI) system. Accurate drug identification was vital in order to verify that the drug in use was Diprivan, and to differentiate between the two concentrations of drug available.**

We identified programmable magnetic resonance (PMR) as a possible secure tagging system for this application, and were then asked to develop a prototype PMR label and reader for Diprifusor.

**Sagentia patented technology**

PMR, developed and patented by Sagentia, uses encoded acousto-magnetic labels to create a remote-read identification system.

In the Diprifusor application, a small PMR label, programmed to carry specific information, is attached to the pre-filled drug syringe. When the syringe is inserted into the system's infusion pump, a reader integrated into the pump body interrogates the PMR label automatically.

The resulting analysis is processed by operating software configured to allow automated drug delivery only if a correct signature is detected. Once the drug has been dispensed at the right concentration (a 1 or 2 per cent solution) the reader automatically erases the information encoded on the PMR label to prevent the syringe being used again with unvalidated contents.

We began with a pilot project, which led to the development of a complete system. The system was fully tested and documented for reliability and regulatory approval and was subsequently taken into high-volume manufacture by us. The Diprifusor system is now in use worldwide, with annual sales running into millions of units. We then went on to agree a formal licensing arrangement which allowed AstraZeneca to use PMR technology in the pharmaceutical sector.

**Full support**

The Diprifusor application illustrates how we support our clients through the full development cycle – from the adaptation of our own technology, to the selection of manufacturing partners and establishing the supply chain. It also demonstrates the way in which we can take in-house IP (in this case our own, but also our clients') to create unique and highly profitable new products.

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