



## Case Study

# Sophion Bioscience: HTS Lab-on-Chip „QPlate“

Unique Lab-on-Chip accelerates drug development

It takes about twelve years to bring a new drug component to the market and the time for developing processes has permanently increased during the last few years. But how can you accelerate drug development?

That was exactly the question asked by Sophion Bioscience A/S. So they developed together with thinXXS Microtechnology AG the QPlate - a completely new microfluidic lab on chip device, which considerably shortens the time for pharmaceutical companies to discover and develop new drugs for various disease areas.



The QPlate, manufactured by thinXXS, is the heart of Sophion's QPatch HT and QPatch-16 systems. The systems allow for fully automated, parallel measurement of up to 48 ion channel currents in cell membranes (patch clamping). Ion channels are important targets in drug development since their controlled blocking or opening may have significant therapeutic effects. So far, such measurements posed a true bottleneck as the manual methods were extremely time consuming and labor intensive.



The QPlate integrates three different functions: it houses up to 48 microfabricated silicon/glass chips for the parallel measurements, it provides the necessary microfluidics to make the device work, and it acts as both electric and fluidic interface between the microstructures and apparatus.

For the first time this microfluidic chip combines the advantages of:

- micromolding,
- silicon microprocessing and
- printed circuit board technology.

As the result, the device integrates more functions than any other lab-on-chip on the market today!

