

# SB Drug Discovery and Nanion: Accelerating Growth for Success

Dr. David Dalrymple,  
featured by Nanion Technologies



Dr. David Dalrymple is Business Development Director at SB Drug Discovery, a Signature Discovery Business. He is dedicated to building meaningful partnerships within the scientific and business communities, enhancing SB Drug Discovery's contribution to scientific advancement.

As a leading provider of ion channel and receptor drug discovery services, SB Drug Discovery is known worldwide for its research capabilities, from customized cell line and assay development to high-throughput screening services and lead optimization support.

At the heart of the company's rapid progression of its status as a leading ion channel expert, SB acknowledges the significance of Nanion's electrophysiology platforms in accelerating the organization's growth.

David Dalrymple, SB's Business Development Director, explains: "We invest in the latest technologies to provide the critical support our clients need to expedite their novel drug development, and our reputation is built upon the trust our partners have in us to deliver on their complex requirements. With such an extensive range of in-house biology services, the technologies SB invests in must be able to cope with the numerous - and detailed - challenges of its clients' drug discovery campaigns. Nanion's automated electrophysiology platforms have been pivotal in enabling us to meet these

growing demands with the consistency of rapid, robust, quality data that clients expect."

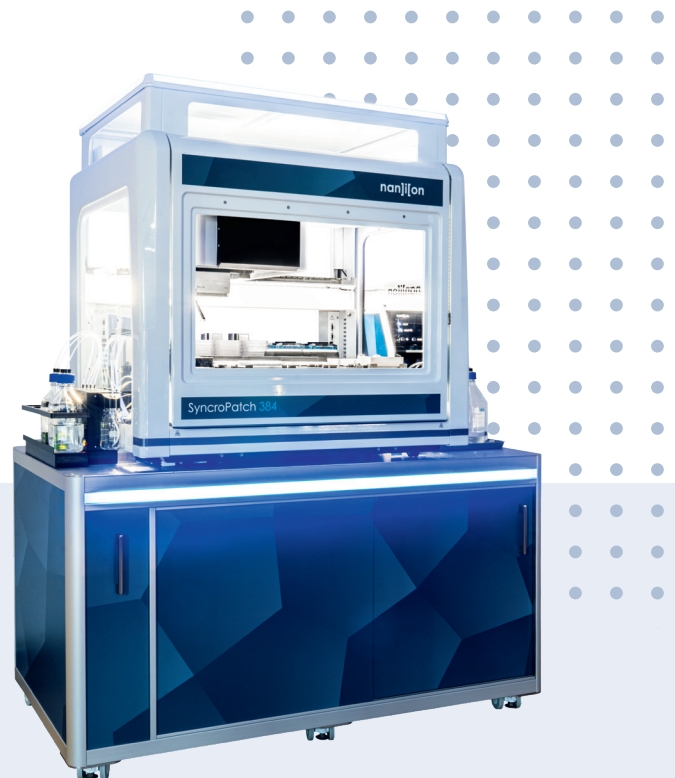
## Diversification through New Technologies

Beginning in 2012, SB's experienced cell biology team undertook an extensive development program resulting in the generation of an extensive array of ion channel cell lines, each meticulously characterized using manual patch clamp electrophysiology. Then, in 2016, the team made the decision to purchase their first SyncroPatch 384 to accommodate their growing volume of work and timeline demands.

With greatly increased throughput and streamlined processing, SB was able to expand its electrophysiology services. A second SyncroPatch was purchased in 2019, followed by a third, in 2022, in anticipation of sustained growth in demand and supply.

### Nanion's SyncroPatch 384 platform

(successor of SyncroPatch 384PE and SyncroPatch 384i) allows effortless high-throughput ion channel screening coupled with high flexibility and reliability, due to the combination of its patch clamp module with Beckman Coulter's new i-Series liquid handling robot Biomek i5.



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Now with over 150 validated targets, SB has one of the largest commercial collections of ion channel targets, and an automated electrophysiology capacity to support multiple integrated programs, high-throughput screening campaigns, routine lead optimization studies as well as ad hoc projects and off-target safety profiling.

### Increased Capacity through Improved Staffing Efficiency

Alongside greater throughput, the automated functionality of the Nanion SyncroPatch 384 has significantly improved staffing efficiency, thus enabling SB’s dedicated research professionals to deliver to a larger and broader client base.

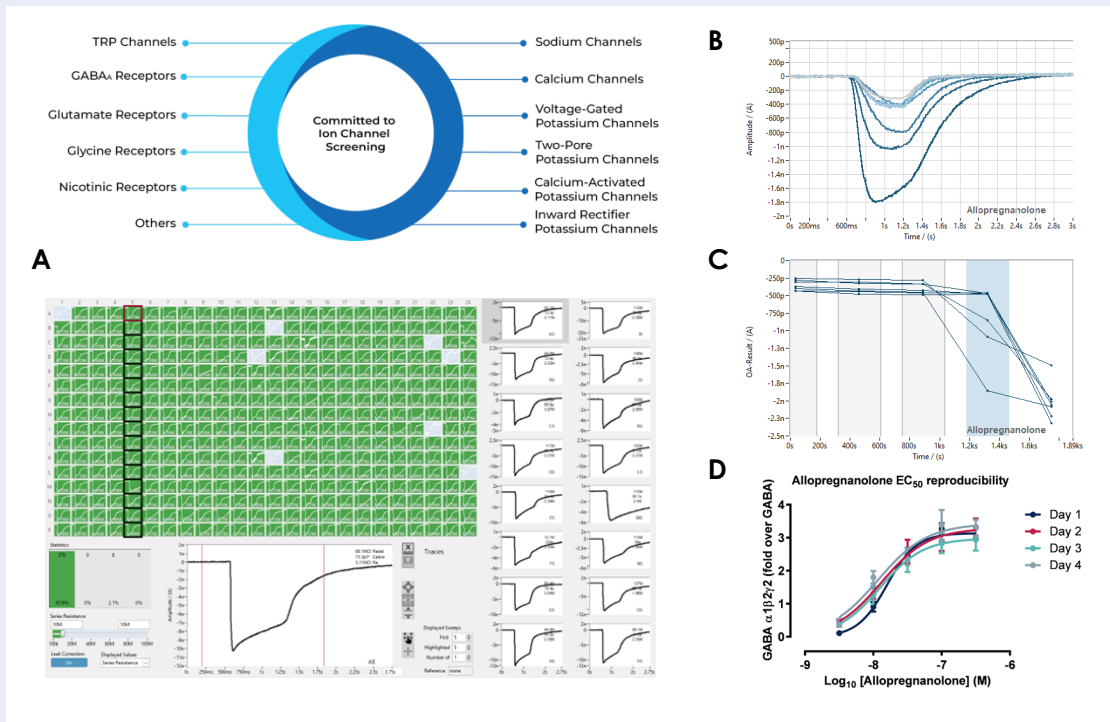
Having grown its team from a complement of 20 staff in 2010, to over 75 biotech professionals in 2023, SB now enjoys global

recognition for its exceptional biology services, and currently supports pharma, biotech and academia throughout the world, from West to East Coast US, to Europe and Asia, and more locally, in the UK.

### Maintaining Values through Planned Growth

Through Nanion’s automated technologies, SB has also found it easier to manage its projected growth with greater precision whilst upholding its wider objectives.

“Using Nanion’s electrophysiology platforms, we have been able to stay ahead of the curve, and accelerate our growth without compromising our core values, both as a company and as an employer. Through our full range of in-house biology services, we strive to be accessible to any size of customer.



**Electrophysiology Screening Studies** SB Drug Discovery conducts their studies on 384-well automated high-throughput patch clamp electrophysiology platforms (SyncroPatch 384), with screening capacity of >10,000 datapoints per day. Figure shows an exemplary assay for a GABA agonist allopregnanolone as recorded (A), and analyzed (B,C) in DataControl 384, the analysis software for the SyncroPatch 384. Graph D shows a high reproducibility of EC<sub>50</sub> values for this assay.

Whilst large global partners can be assured of our capacity to deliver, our end-to-end electrophysiology services also make it easier for smaller companies to pursue their ion channel research, by negating the need to acquire specialist technologies or invest in additional staffing and training."

This level of inclusivity is part of SB's primary aim to bring the proverbial 'bench' closer to the bedside, accelerating goals to discover the potential of ion channels to address areas of unmet medical need - particularly with respect to mental illness and other CNS diseases.

### **SB Drug Discovery and Nanion Unite for Scientific Advancement**

Apart from collaborations in business development sphere, SB Drug Discovery and Nanion, have also jointly performed scientific projects, exploring not only ion channel function but function of transporter targets, relevant for multiple devastating diseases. This partnership exceeds traditional scopes and pools together expertise and resources in the field of ion channel research using automated patch clamp

technology and lysosomal research via the innovative, solid supported membrane-based electrophysiology (SSME) platform for transporter evaluation, SURF<sup>ER</sup> 96SE.

The collaboration resulted in two recent publications <sup>1,2</sup>, highlighting the capabilities of two technologies, and the importance of a holistic approach to investigating therapeutically relevant targets. One of them the lysosomal cation channel TMEM175 is a Parkinson's disease-related protein and a promising drug target <sup>2</sup>. Together, SB and Nanion performed functional characterization of TMEM175 in lysosomes using SSM-based electrophysiology, and developed an HTS-compatible assay mode to study and characterize compounds that modulate TMEM175 using the same technology. Groups also compared the results obtained from this assay with those obtained from whole-cell APC and LPC recordings, providing a comprehensive perspective on the compound effects on TMEM175 across different experimental approaches and assay conditions <sup>2</sup>.



*SB Drug Discovery scientists utilize multiple high-throughput SyncroPatch 384 platforms to deliver robust, high quality electrophysiology data to support their global customers.*

**"Using Nanion's platforms, we add further value in the drug discovery chain, facilitating the development of more innovative - and more cost-effective - therapeutics for the benefit of the global community. "**

**Dr. David Dalrymple**, Business Development Director, SB Drug Discovery

## Looking to the Future...

As a result of their continued success, the SB team are currently expanding into new facilities. And, with all three of their current SyncroPatch 384 platforms in operation seven days per week, it didn't take long until the company had its sights on further technological expansion - cementing their long-standing and productive partnership with Nanion. SB has broadened its assay capabilities in the field of transporter research by incorporating the Nanion SSME platform, SURFER 96SE, into its comprehensive portfolio.

"Nanion's platforms have helped us to add further value in the drug discovery chain, facilitating the development of more innovative - and more cost-effective - therapeutics for the benefit of the global community. With its unrivaled technologies and outstanding customer service, Nanion complements SB's own commitment to excellence, and we look forward to continuing to work together towards our shared aims", David highlights.

## Contact Information

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