

Our Ion Channel Laboratory

Rapid, High Quality Ion Channel Profiling Matched to Your Design-Make-Test Cycle

Whether you need to explore cardiac ion channel activity for safety, or are interested in ion channels as drug targets, Apconix can help with our dedicated electrophysiology expertise, customer-focused flexibility and rapid turnaround times.

Our nonclinical safety experts are uniquely positioned to work with your project team to interpret your data in the context of your drug discovery programme.

Our Services Include

Ion channel screening for hERG, cardiac and neuro liabilities, and all elements of the CiPA paradigm including the ion channel panel (hERG, hNav1.5 peak and late current, hKvLQT1, hKv4.3, hCaV1.2, hKir2.1), in silico action potential modelling, and investigation in hiPSC-cardiomyocytes

Bespoke assay and cell line development

Direct, functional electrophysiology measurements, performed by experts, with fewer artefacts than ligand-binding or fluorescence assays

- Testing by manual patch-clamp, or on the latest generation automated electrophysiology platforms (QPatch II and Patchliner), with the capacity for large numbers of compounds
- Access to Apconix scientists who will tailor our service specifically to your needs and better advise you on your next steps
- Over 80% of data are returned to clients within one week

“Your data turnaround time is incredibly good, and it really helps us to track SAR and progress our compounds in a rapid and efficient manner. Thanks Apconix for your wonderful supports to Bugworks.”

V Balasubramanian, Ph.D.,
Bugworks Research India Pvt. Ltd.

**Ion channels play a central role in normal and disease biology.
Apconix develop and optimise novel ion channel assays for
hit identification, selectivity profiling or mechanism of action studies.**



Examples of Bespoke Assay Development

Hit Identification/HTS

We have developed a dual addition protocol in 384-well format for the high-throughput screening (HTS) of ~10,000 compounds against an epithelial sodium channel isoform by automated electrophysiology.

Selectivity Profiling

We are often asked to define the selectivity profile of compounds against a bespoke panel of ion channel targets. Each panel is specific to the client's needs and the selectivity they are trying to demonstrate.

Bespoke Investigations

Whether we are testing pharmaceuticals or agrochemicals, we are happy to carry out bespoke investigations to help you optimise your discovery programme. For example, we have investigated the effect of impurities, compound solubility and new modalities such as antibodies, peptides and aptamers.

ApconiX is a team of nonclinical safety experts providing drug discovery and development support in toxicology and electrophysiology.

Meet Some of the Team



Dr Michael Morton

A co-founder of ApconiX, Dr Michael Morton is an expert electrophysiologist and ion channel biologist. Mike has a serious passion for ion channels and works with collaborators and clients alike to ensure the highest quality data are used to support better decision-making.



Dr Kimberly Rockley

Dr Kimberly Rockley carried out her post graduate research at Durham University in anthracycline-induced cardiotoxicity and its mitigation by angiotensin blockade in vitro. Kim studied for a BSc in Biomedical Science and Master's degree in Cancer Pharmacology at the University of Bradford. Currently, Kim is investigating the ion channels implicated in seizure.



Dr Karen Jones

Dr Karen Jones has over 10 years experience in the pharmaceutical industry within the early drug discovery setting. Karen's area of expertise is in the development of ion channel and GPCR assays which are used for compound screening in various formats from small scale bespoke experiments up to large scale, fully automated screens.

Contact the ApconiX team for more details

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Meet Some More of the Team



Dr Emily Johnson

After completing her BSc Neuroscience (1st class, Hons), Dr Emily Johnson studied the role of T-type Ca^{2+} channels in proliferative cardiovascular disease for her PhD (University of Leeds). Having cemented a love for electrophysiology, she spent 5 years working as a post-doctoral Research Fellow, utilising her expertise with patch-clamp electrophysiology, optogenetics and 2-photon Ca^{2+} imaging, to address novel Neuroscience research questions. A natural problem solver and collaborative researcher, Emily has a tenacious attitude useful for acquiring high-quality, reproducible data.



Hannah Jennings

Hannah Jennings joined the team working in our ion channel laboratory after a years' internship. A Biochemistry graduate from the University of Liverpool, with an MSc in Advanced Biological Sciences, Hannah carried out two research projects in tissue culture and cell signalling, with the Institute of Ageing and Chronic Disease at the University of Liverpool. A creative research scientist, Hannah is looking at initiatives to improve sustainability and reduce our environmental impact.



Magali-Anne Maizieres

Magali-Anne Maizieres is an electrophysiologist and gained 3 years' laboratory experience in both manual and automated patch-clamp at Sanofi. After completing a BSc in Life Sciences from the University Pierre and Marie Curie in Paris and BSc in Biotechnologies from the University Paris Descartes, Magali gained a Master's degree in Health Technologies from the University of Bordeaux. Magali subsequently joined Horizon Discovery, gaining experience in engineering cell lines, and then Cambridge University as a RA in neuroscience. Magali joined Apconix to indulge her love of patch-clamp and her passion for ion channels and electrophysiology.



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