



# *Creative Biogene*

**Ion Channel Screening & Profiling Services**

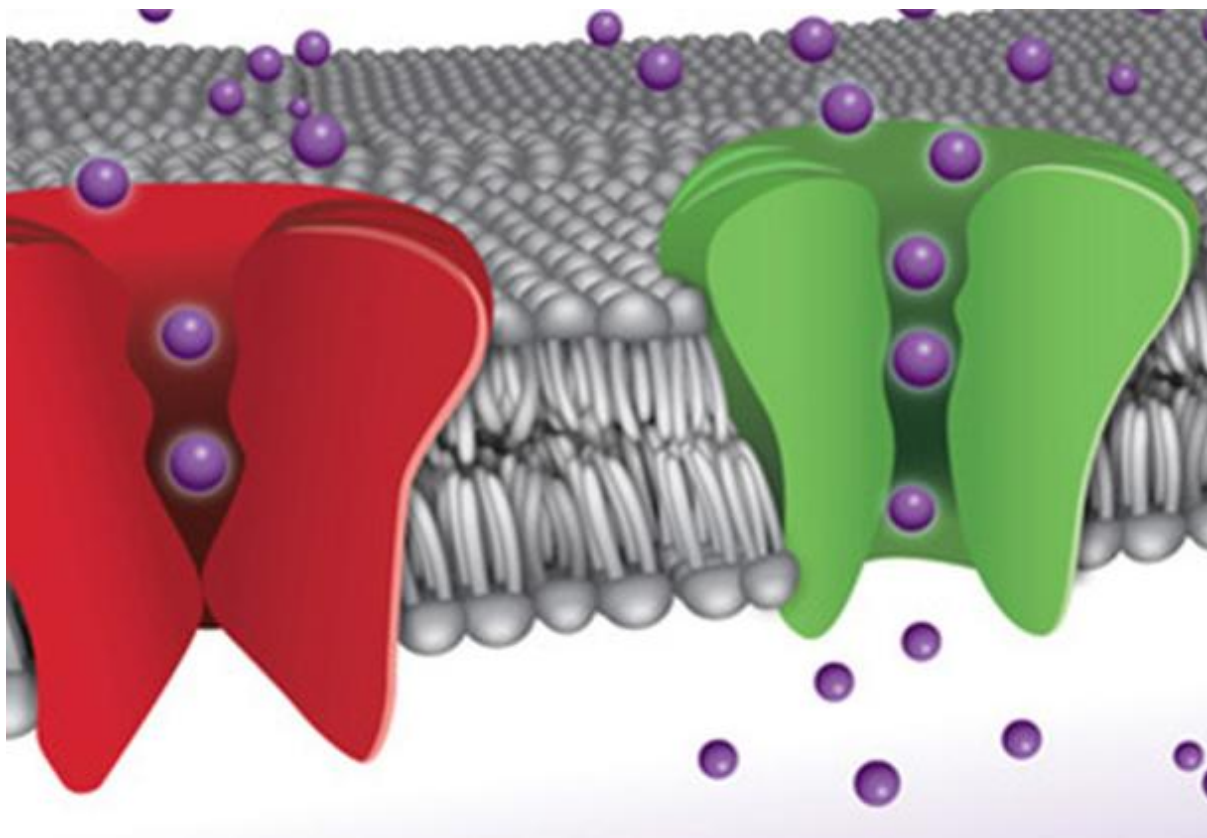


Email: [info@creative-biogene.com](mailto:info@creative-biogene.com)

Website: <http://www.creative-biogene.com>

# On Overview of Ion Channel

---



An ion channel is a gated and water-filled pore created by transmembrane proteins to help establish and control voltage potential across cell membranes by controlling the active flow of ions between the intracellular and the extracellular environments.

As key components in a wide variety of biological processes involved in rapid changes in cells, ion channels are important therapeutic targets in a range of indications, including cardiac, CNS, immune system and metabolic diseases.

Due to the development of screening technologies, a dramatically increased interest has been shown in ion channels for hit validation, potency determination, selectivity profiling and lead optimization.

## Ion Channel Screening & Profiling Services At Creative Biogene

---

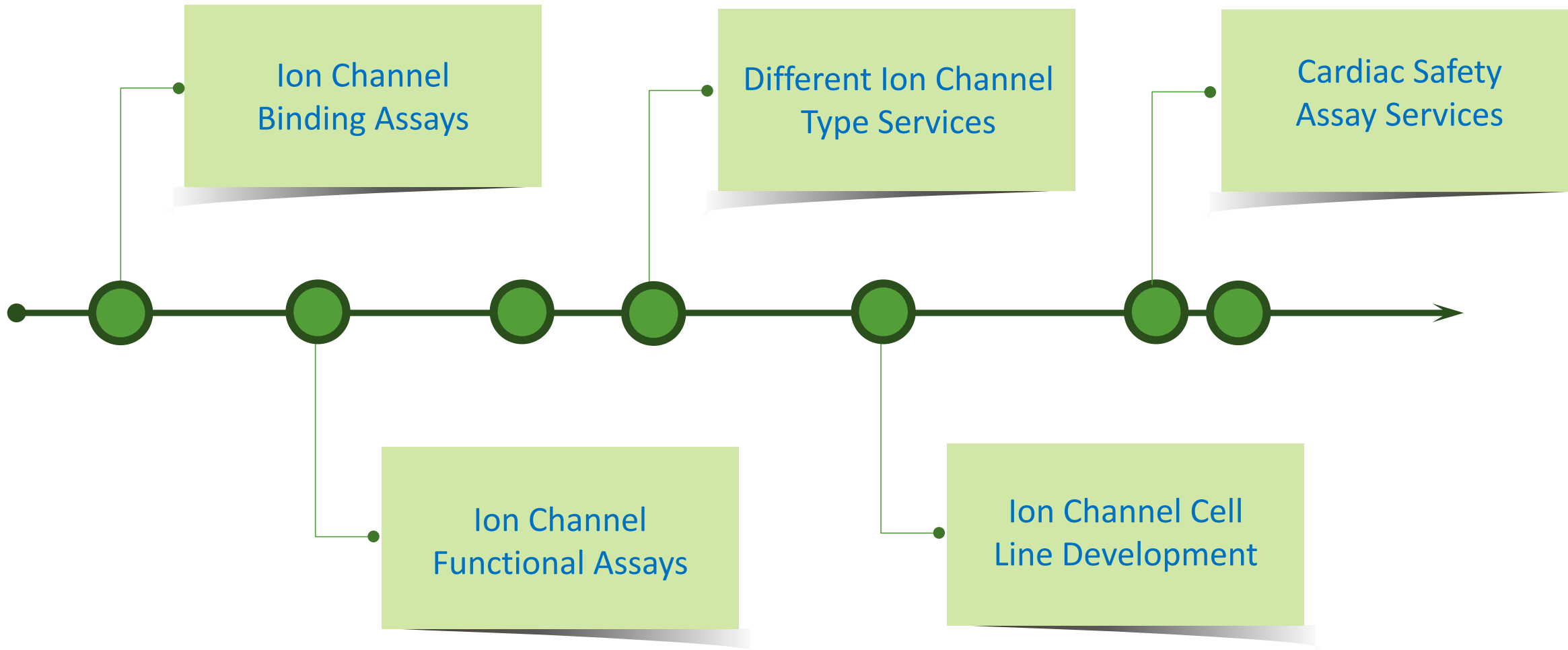


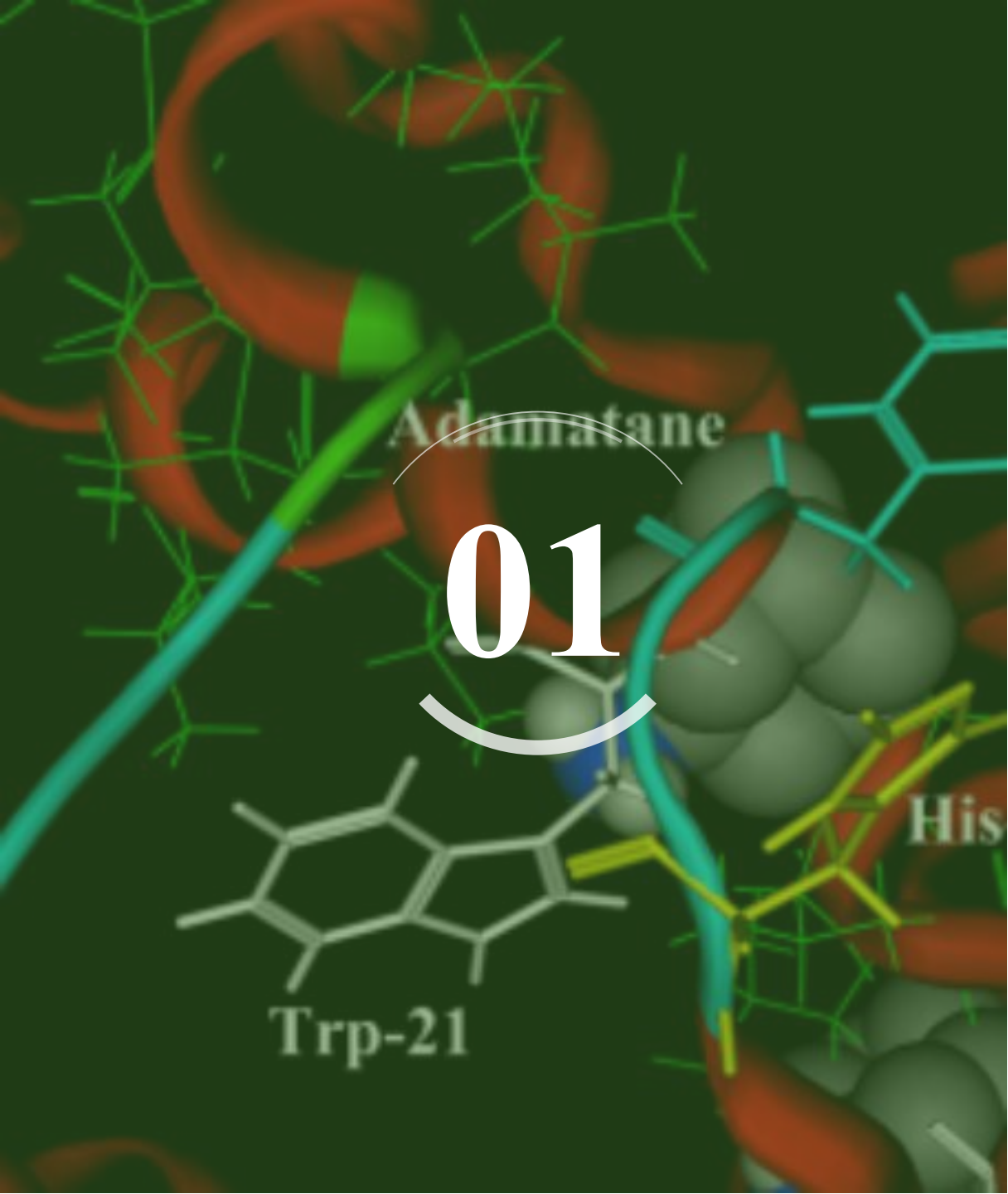
Through conducting against ion channels from a large collection expressed in mammalian cells, a compound's ion channel potency, efficacy, specificity or potential for off-target effects can also be high-throughput identified in early drug discovery at Creative Biogene.

Whether you are doing HTS or lead optimization against your target of interest, Creative Biogene can provide a validated assay and platform fit for the purpose. Our flexible service allows any single channel or combination of channels to be tested as part of a customized panel.



# Ion Channel Screening & Profiling Services At Creative Biogene





## Ion Channel Binding Assays

---



High-throughput ion channel binding assays have been configured for filter binding assays, scintillation proximity assays, and fluorescence polarization assays. Ligand binding assays can detect compounds that compete with ligands for binding to a specific site. Given its low cost and high throughput, binding assays have been developed for many voltage-gated and ligand-gated ion channels.



Creative Biogene utilizes the gold standard filtration method to perform the highest assay robustness. We offer radioligand binding assays across a wide range of ion channel families, including sodium, potassium, and calcium, and so on. By radioligand displacement assays, we can help you determine the interaction and calculate a compound's affinity for a channel of interest.



## Ion Channel Functional Assays



Flux-based assays



Fluorescence-based assays

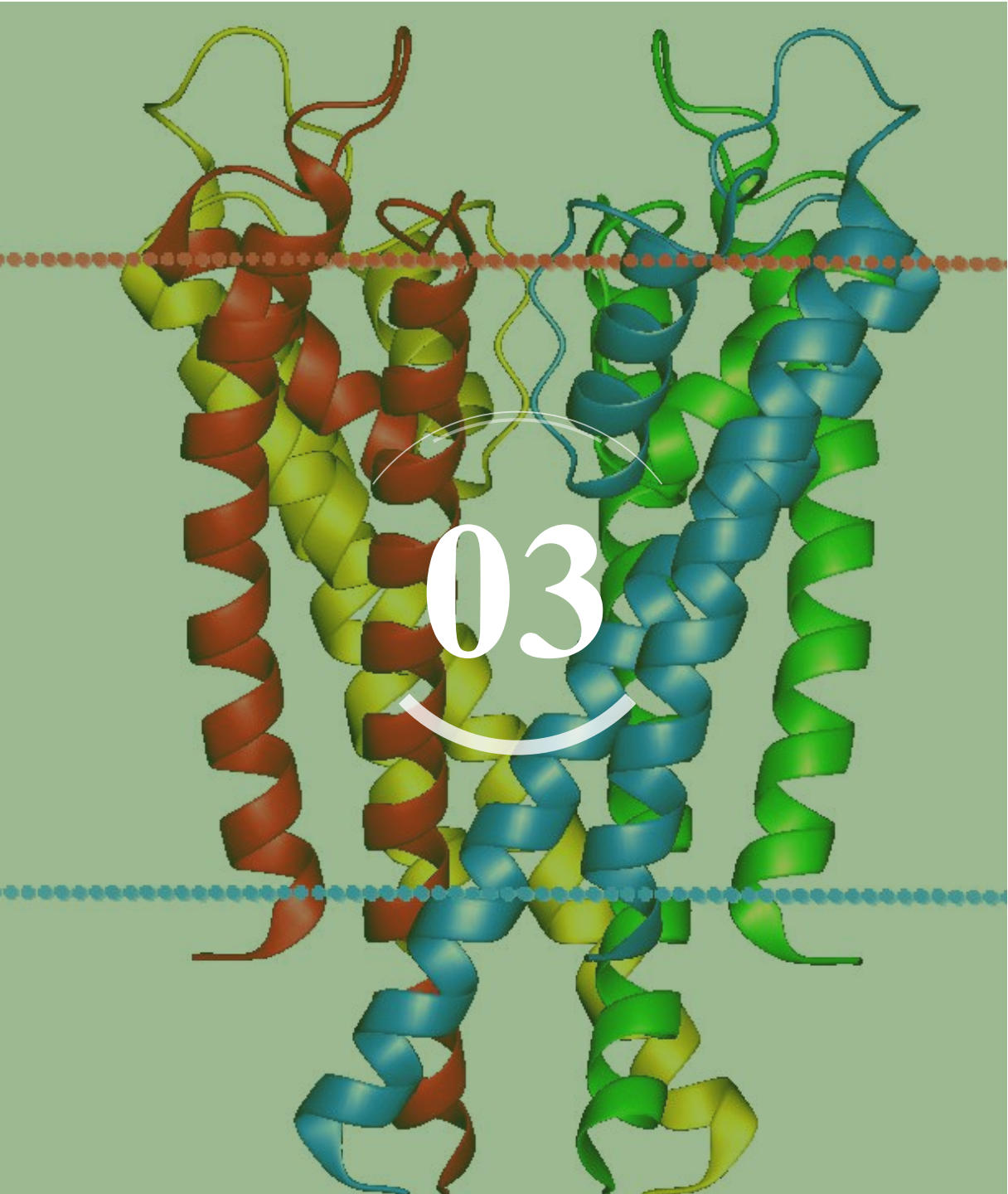


Manual patch clamp assays



Automated electrophysiological assays

From single cell manual patch clamp assay service to high throughput 384-well automated electrophysiological assays services, we provide ion channel functional assays using our cell lines on a variety of platforms and offer the throughput or depth of profiling which meet your demands.



## Different Ion Channel Type Services

---

**Creative Biogene** provides broad types of ion channel services and ion channel cell lines, including but not limited to the following categories:

Sodium Channels

---

Calcium Channels

---

Potassium Channels

---

TRP Channels

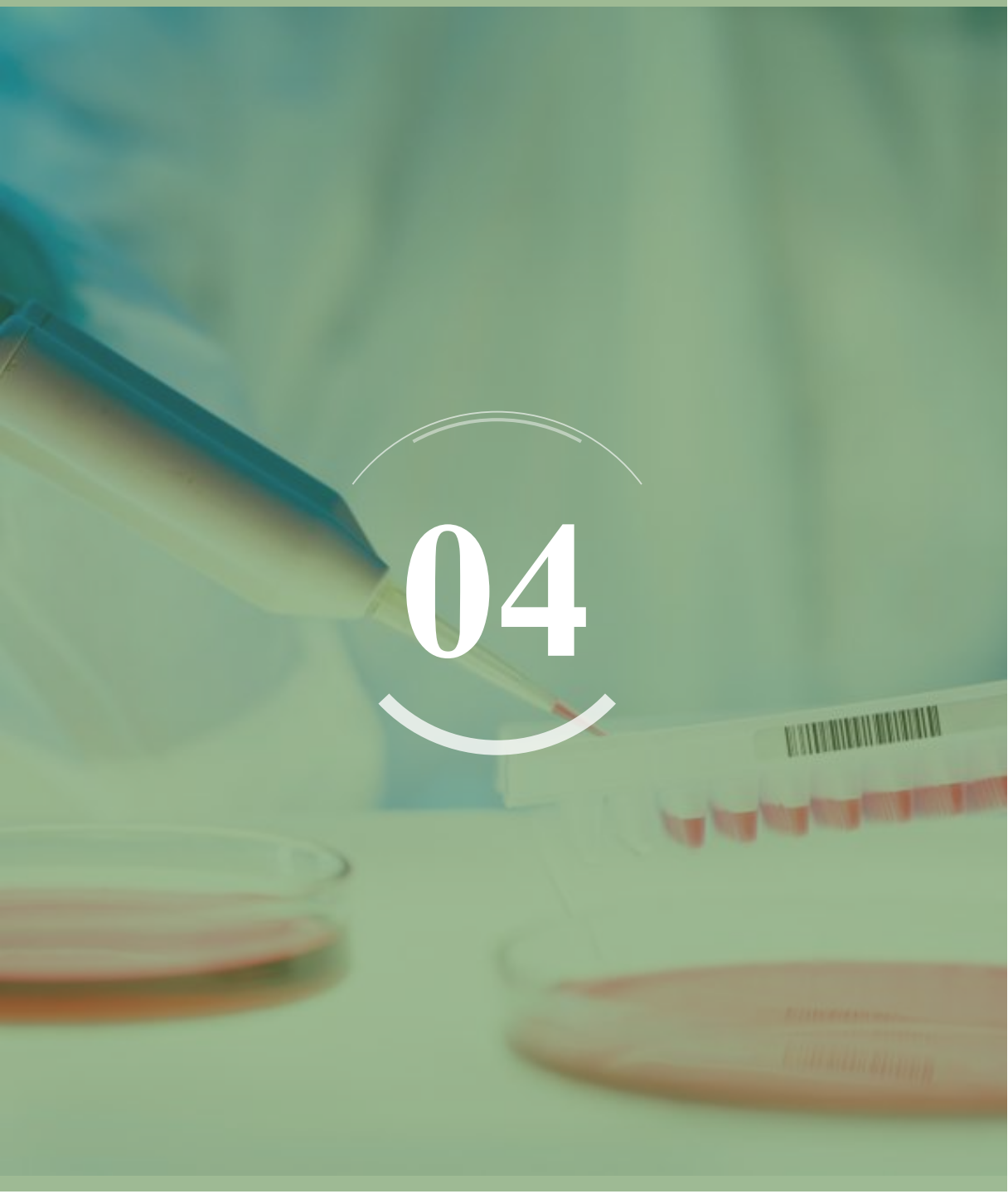
---

P2X Channels

---

Other Ion Channels

---

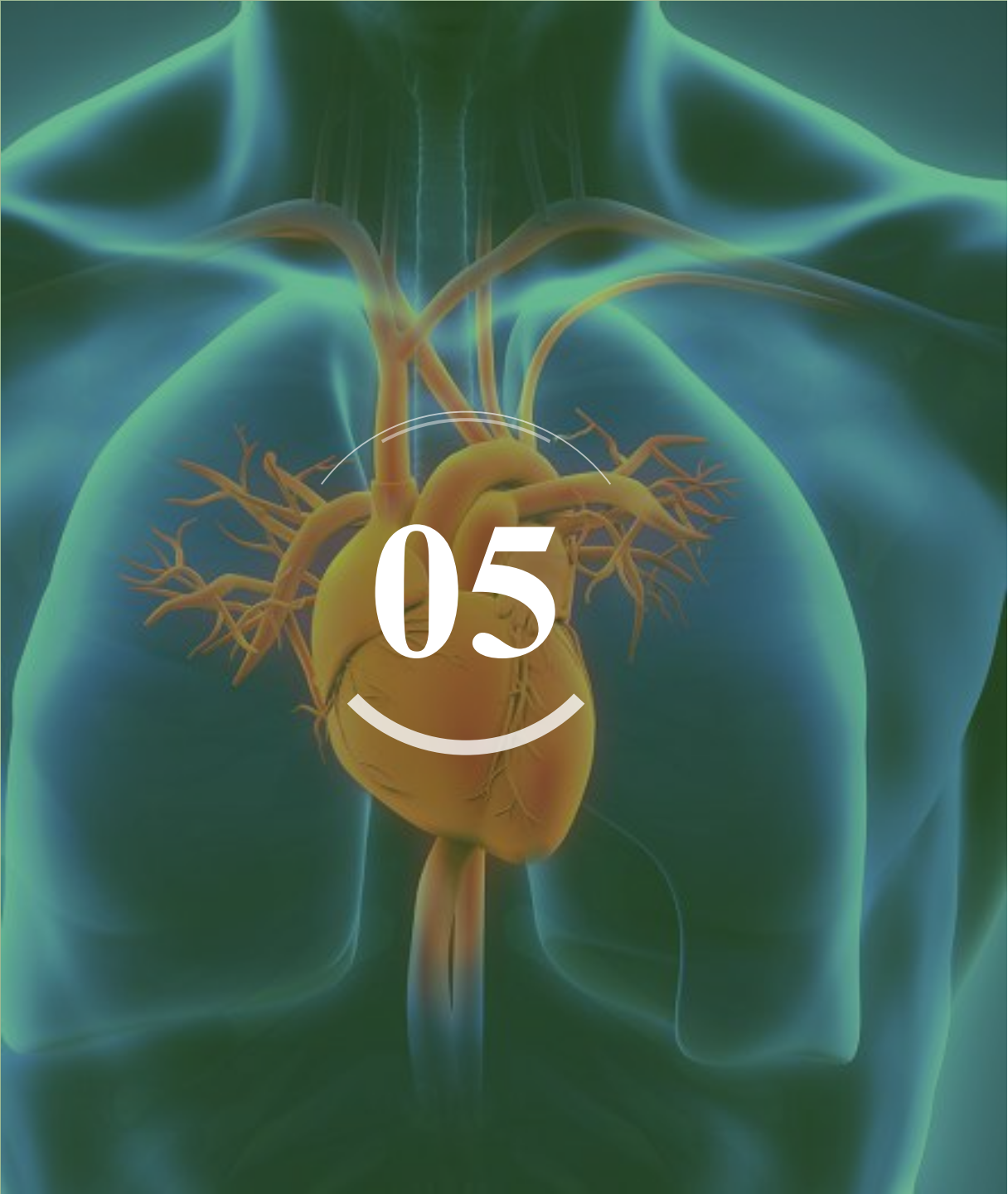


# Ion Channel Cell Line Development

So far, we have successfully developed hundreds of cell lines stably expressing functional ion channels. Our extensive collection of ion channel stable cell lines can be particularly useful in compound screening and early stage drug discovery programs.

Target Experience	Target Species	Assay Platform
Sodium channels	Human	Manual electrophysiology
Potassium channels	Mouse	Automated electrophysiology
Calcium channels	Rat	Fluorescence
Chloride channels	Monkey	RT-PCR
TRP channels	Dog	
P2X channels	Pig	
Other channels		





## Cardiac Safety Assay Services

---

In the drug development process, the drug-induced arrhythmia is a concern for pharmaceutical industry because it may manifest following the approval of new drugs and cause serious harm to patients. In order to reduce failure in later stages, *in vitro* pharmaceutical profiling which can provide crucial information to estimate drug candidates with potential toxicity early in drug discovery is needed.

For the past decade, *in vitro* inhibition assays of hERG were used to estimate the risk of delayed ventricular repolarization (QT prolongation)-related arrhythmia in humans. However, blockade or potentiation of other cardiac currents could also generate adverse effects in heart. Thus, to better predict proarrhythmic risks using *in vitro* assays, a comprehensive *in vitro* proarrhythmia assay (CiPA) has been proposed.

## Cardiac Safety Assay Services



Automated electrophysiology screening against multiple cardiac screen panels, including hERG, NaV1.5, CaV1.2, Kir2.1, KV1.5 etc.

01



Cardiac safety screen using iPSCs-derived cardiomyocytes.

02



Cardiac action potential assays of Purkinje fibers and papillary muscle.

03



Cardiac pharmacological study using acute isolated cardiomyocytes (from rabbit, Guinea pig or rats).

04

## Advantages of Ion Channels Services At Creative Biogene

01

Seasoned management and well-experienced research teams



02

Variety of automated platform assays to meet different demands



03

Outstanding infrastructure and instrumentation



04

Competitive prices, reliable and quick turn-around time





# THANKS

Email: [info@creative-biogene.com](mailto:info@creative-biogene.com)

Website: <http://www.creative-biogene.com>