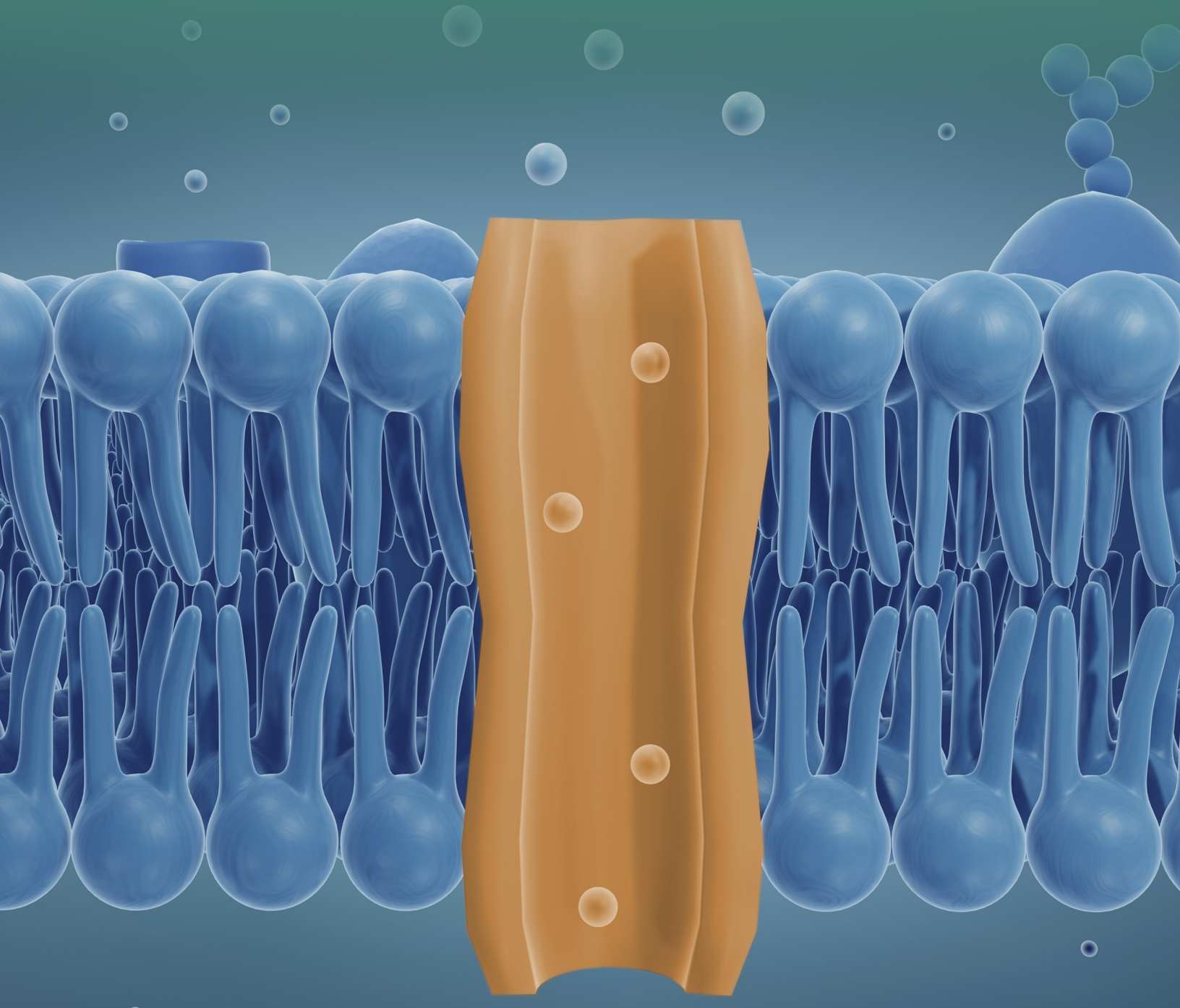




# PRODUCT SOLUTIONS FOR ION CHANNELS

Enabling Drug Discovery and Development Programs

Functionally Validated Ion Channel Products for  
Drug Discovery and Safety Pharmacology



# Ion Channel Product Solutions

## High-Quality PrecisION® Cell Lines for Target Discovery, Hit Screening, Lead Optimization, and Safety Studies

Ion channels continue to be an important therapeutic target for a range of indications, including arrhythmia, hypertension, local anesthesia, pain, stroke, epilepsy, depression, bipolar disorder, cystic fibrosis, cardiac arrhythmias, COPD, autoimmune disorders, and diabetes. They are an appealing target to develop therapeutics against rare channelopathies, since many of these diseases are caused by the mutation of a single gene. Ion channels not only constitute a significant class of drug targets, they are also critical for evaluating drug safety including being part of the U.S. FDA required safety testing for any drug targeted against human disease.



- **Validated** – Functionally and pharmacologically validated ion channel cell lines used in Drug Discovery & Safety programs both in house and at customer sites, with many cell lines in use for over ten years
- **Superior Performance** - Proprietary cell line vector technologies for optimum stability, expression, and uniform current
- **Versatile Use** – PrecisION cell lines applicable for manual and automated patch-clamp studies, PathHunter® pharmacotrafficking hERG & CFTR cell lines for pharmacochaperone discovery, and PrecisION hERG membrane prep for safety binding studies

## Ion Channel Products and Services

Eurofins Discovery, which includes the Eurofins DiscoverX company, has leveraged the combined expertise of our technical experts located around the world to provide you ion channel drug discovery products and services for over 30 years. Choose from a large selection of both *in vitro* and safety ion channel related products and services for an integrated assessment of your targets' mechanism of action that meets your ion channel drug discovery research needs.

Please refer to our ion channel related websites to learn more about our latest products and services.

### Eurofins Discovery Websites

**Products** [discoverx.com/ion-channels](https://discoverx.com/ion-channels)

**Services** [eurofinsdiscoveryservices.com](https://eurofinsdiscoveryservices.com)

## Product Types

Ion channel products cover multiple common and unique assay types that can be used to understand the complete biology of your target and pharmacology of your drug or ligand.

### PrecisION Cell Lines

Fully-validated cell lines for use in cell-based functional assays including manual and automated patch clamp in fluorescent and luminescent platforms. Obtain an accurate assessment of compound selectivity and safety pharmacology.

### PrecisION hERG Membrane Preparation

Monitor potential hERG liability at the earliest phase of drug discovery using common radioligands during electrophysiological screening. This membrane prep is derived from a hERG stable cell line for lot-to-lot consistency and has a high signal-to-background ratio and specific total binding.

### PathHunter® Pharmacotrafficking Assays

Simple cell-based assays to identify pharmacochaperone compounds for cystic fibrosis and cardiac arrhythmias. Monitor CFTR and hERG receptor trafficking to the membrane without the need for antibodies or imaging.

### Custom Assay Development

Do not see the ion channel product you need? Consider our custom assay development services to generate a cell-based assay, cell line, or membrane preparation to help you with your research.

## Products Target List

The following table indicates the available ion channel **products**. For ion channel services, please refer to our services website. The table is organized by product type and includes ion channel families, targets, catalog #, product name, species, and host cell types.

Please refer to our websites for detailed information and the most update-to-date list of products currently available.

Eurofins DiscoverX Products [discoverx.com](https://discoverx.com) and Discovery Services [eurofinsdiscoveryservices.com](https://eurofinsdiscoveryservices.com)

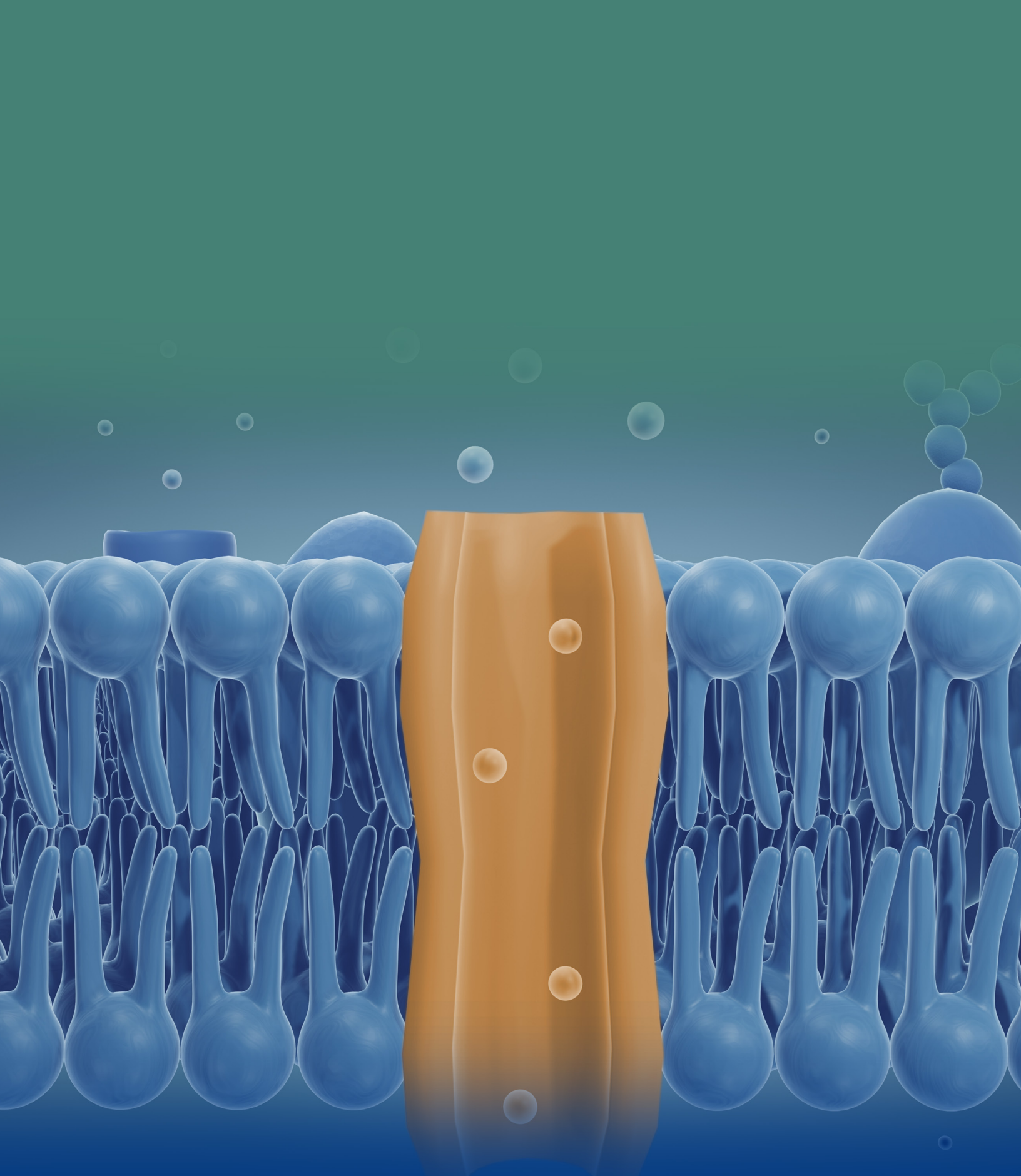
PrecisION® Cell Lines for Electrophysiology Assays (Conventional and Automated Patch Clamp Platforms)					
Family	Target	Catalog #	Product Name	Species	Host Cell Type
Cation, Acid-Sensing-Neuronal Cation	ASIC3	CYL3055	PrecisION® hASIC3 Recombinant Stable Cell Line	Human	HEK 293
Calcium, Voltage-Gated	Cav2.1 $\alpha 1C/\beta 2a/\alpha 2/\delta 1$	CYL3051	PrecisION® hCav1.2 $\alpha 1C/\beta 2a/\alpha 2/\delta 1$ Recombinant Stable Cell Line	Human	HEK 293
Calcium, Voltage-Gated	Cav2.2	CYL3054	PrecisION® hCav2.2 $\alpha 1B/\beta 3/\alpha 2\delta 1$ Recombinant Stable Cell Line	Human	HEK 293
Calcium, Voltage-Gated	Cav3.2	CYL3075	PrecisION® hCav3.2 Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	CFTR	CYL3088	PrecisION® hCFTR Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	GABAA $\alpha 1/\beta 3/\gamma 2$	CYL3053	PrecisION® hGABAA $\alpha 1/\beta 3/\gamma 2$ Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	GABAA $\alpha 3/\beta 3/\gamma 2$	CYL3068	PrecisION® hGABAA $\alpha 3/\beta 3/\gamma 2$ Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	GABAA $\alpha 4/\beta 3/\gamma 2$	CYL3085	PrecisION® hGABAA $\alpha 4/\beta 3/\gamma 2$ Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	GABAA $\alpha 5/\beta 3/\gamma 2$	CYL3073	PrecisION® hGABAA $\alpha 5/\beta 3/\gamma 2$ Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	GABAA $\alpha 6/\beta 3/\gamma 2$	CYL3086	PrecisION® hGABAA $\alpha 6/\beta 3/\gamma 2$ Recombinant Stable Cell Line	Human	HEK 293
Cation, Ligand-Gated	GluR6 (GluK2)	CYL3049	PrecisION® hGluR6 Recombinant Stable Cell Line	Human	HEK 293
Chloride, Ligand-Gated	GlyRA1	CYL3056	PrecisION® hGlyRA1 Recombinant Stable Cell Line	Human	HEK 293
HCN, Hyperpolarization-Gated	HCN1	CYL3040	PrecisION® hHCN1 Recombinant Stable Cell Line	Human	HEK 293
HCN, Hyperpolarization-Gated	HCN2	CYL3041	PrecisION® hHCN2 Recombinant Stable Cell Line	Human	HEK 293
HCN, Hyperpolarization-Gated	HCN3	CYL3042	PrecisION® hHCN3 Recombinant Stable Cell Line	Human	HEK 293
HCN, Hyperpolarization-Gated	HCN4	CYL3012	PrecisION® hHCN4 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	hERG-CHO	CYL3038	PrecisION® hERG Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	hERG-HEK	CYL3039	PrecisION® hERG Recombinant Stable Cell Line	Human	HEK 293
Potassium, Voltage-Gated	KCNQ1/hmink (Kv7.1/KCNE1)	CYL3007	PrecisION® hKCNQ1/hmink Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Inward Rectifier	Kir2.1	CYL3032	PrecisION® hKir2.1 Recombinant Stable Cell Line	Human	HEK 293
Potassium, Inward Rectifier	Kir6.2/SUR2A	CYL3099	PrecisION® hKir6.2/SUR2A Recombinant Stable Cell Line	Human	HEK 293
Potassium, Voltage-Gated	Kv1.1	CYL3014	PrecisION® hKv1.1 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.2	CYL3015	PrecisION® hKv1.2 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.3	CYL3016	PrecisION® hKv1.3 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.4	CYL3017	PrecisION® hKv1.4 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.5	CYL3018	PrecisION® hKv1.5 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.6	CYL3019	PrecisION® hKv1.6 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.7	CYL3020	PrecisION® hKv1.7 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv1.8	CYL3021	PrecisION® hKv1.8 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv12.2	CYL3089	PrecisION® hKv12.2 Recombinant Stable Cell Line	Human	HEK 293
Potassium, Voltage-Gated	Kv2.1	CYL3022	PrecisION® hKv2.1 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv2.1/Kv9.2	CYL3067	PrecisION® hKv2.1/hKv9.2 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv3.1	CYL3043	PrecisION® hKv3.1 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv3.2	CYL3044	PrecisION® hKv3.2 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv3.3	CYL3045	PrecisION® hKv3.3 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv4.2/hKChIP2	CYL3026	PrecisION® hKv4.2/hKChIP2 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv4.3/hKChIP1	CYL3027	PrecisION® hKv4.3/hKChIP1 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv4.3/hKChIP2	CYL3069	PrecisION® hKv4.3/hKChIP2 Recombinant Stable Cell Line	Human	HEK 293
Potassium, Voltage-Gated	Kv7.2/Kv7.3	CYL3059	PrecisION® hKv7.2/hKv7.3 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv7.3/Kv7.5	CYL3060	PrecisION® hKv7.3/hKv7.5 Recombinant Stable Cell Line	Human	CHO-K1
Potassium, Voltage-Gated	Kv7.4	CYL3092	PrecisION® hKv7.4 Recombinant Stable Cell Line	Human	HEK 293
Potassium, Voltage-Gated	Kv7.4/Kv7.5	CYL3096	PrecisION® hKv7.4/hKv7.5 Recombinant Stable Cell Line	Human	HEK 293
Cation, Ligand-Gated	hAChR $\alpha 1/\beta 1/\delta/\epsilon$	CYL3052	PrecisION® hnAChR $\alpha 1/\beta 1/\delta/\epsilon$ Recombinant Stable Cell Line	Human	HEK 293
Cation, Ligand-Gated	hAChR $\alpha 3/\beta 4$	CYL3057	PrecisION® hnAChR $\alpha 3/\beta 4$ Recombinant Stable Cell Line	Human	HEK 293
Cation, Ligand-Gated	hAChR $\alpha 4/\beta 2$	CYL3106	PrecisION® hnAChR $\alpha 4/\beta 2$ Recombinant Stable Cell Line	Human	HEK 293
Cation, Ligand-Gated	hAChR $\alpha 7/ric3$	CYL3097	PrecisION® hnAChR $\alpha 7/ric3$ Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	Nav1.1	CYL3009	PrecisION® hNav1.1 Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	Nav1.2	CYL3023	PrecisION® hNav1.2 Recombinant Stable Cell Line	Human	CHO-K1
Sodium, Voltage-Gated	Nav1.3	CYL3003	PrecisION® hNav1.3 Recombinant Stable Cell Line	Human	CHO-K1
Sodium, Voltage-Gated	Nav1.4	CYL3024	PrecisION® hNav1.4 Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	Nav1.5	CYL3004	PrecisION® hNav1.5 Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	Nav1.6	CYL3010	PrecisION® hNav1.6 Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	Nav1.7	CYL3011	PrecisION® hNav1.7 Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	Nav1.8/ $\beta 1$	CYL3025	PrecisION® hNav1.8/ $\beta 1$ Recombinant Stable Cell Line	Human	HEK 293
Sodium, Voltage-Gated	rNav1.8	CYL3050	PrecisION® rNav1.8 Recombinant Stable Cell Line	Rat	ND7-23
TRP	TRPA1	CYL3066	PrecisION® hTRPA1 Recombinant Stable Cell Line	Human	HEK 293
TRP	TRPV1	CYL3063	PrecisION® hTRPV1 Recombinant Stable Cell Line	Human	HEK 293
TRP	TRPV3	CYL3065	PrecisION® hTRPV3 Recombinant Stable Cell Line	Human	HEK 293
TRP	TRPV4	CYL3064	PrecisION® hTRPV4 Recombinant Stable Cell Line	Human	HEK 293

PrecisION® Membrane Preparation for Radioligand and Copetitive Binding Assays

Family	Target	Catalog #	Product Name	Species	Host Cell Type
Potassium, Voltage-Gated	hERG	CYL4039	PrecisION® Recombinant hERG Potassium Ion Channel Membrane Preparation	Human	HEK 293

PathHunter® Pharmacotraficking Cell Lines for Pharmacochaperone Compound Discovery

Family	Target	Catalog #	Product Name	Species	Host Cell Type
Chloride, Ligand-Gated	CFTR- $\Delta F508$	93-0987C3	PathHunter® U2OS CFTR- $\Delta F508$ MEM-EA Pharmacotraficking Assay	Human	U2OS
Potassium, Voltage-Gated	hERG	93-1064C3	PathHunter® U2OS KCNH2(G601S) MEM-EA Pharmacotraficking Assay	Human	U2OS



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