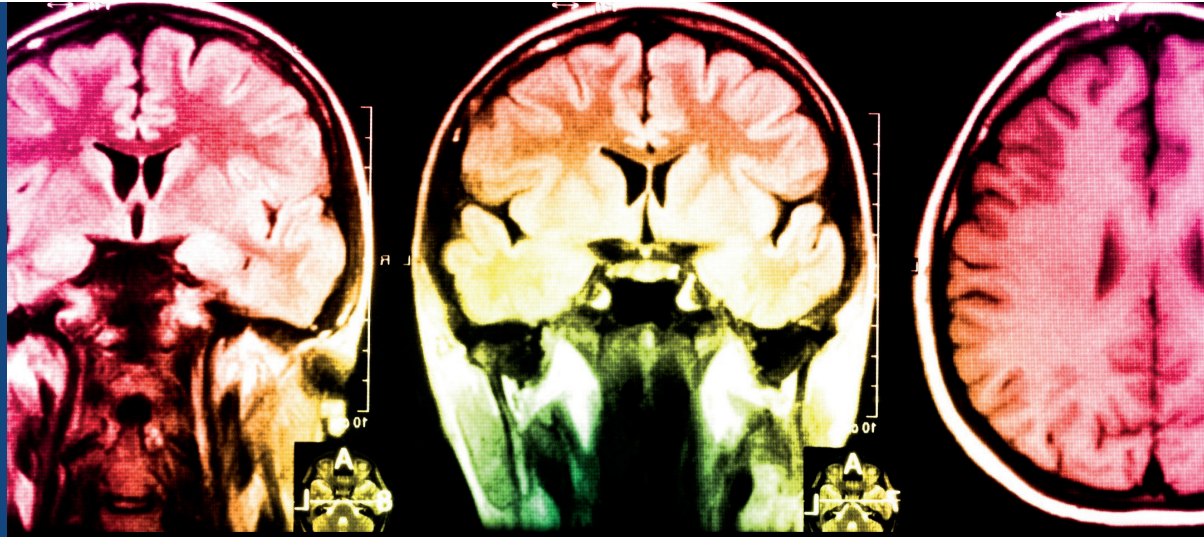


### Summary

The Charles River ion channel portfolio includes over 120 targets which have been organized into Channel Panels<sup>®</sup> based on current scientific findings, proving a useful tool in guiding early screening and selectivity profiling.



DISCOVERY

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### Ion Channel Families:

- Calcium, voltage-gated (Cav1.3/ $\beta_3/\alpha_2\delta$ )
- Ligand-gated (GABA ( $\alpha_1\beta_3\gamma_2$ ,  $\alpha_2\beta_3\gamma_2$ ,  $\alpha_3\beta_3\gamma_2$ ,  $\alpha_4\beta_3\gamma_2$  and  $\alpha_5\beta_3\gamma_2$ ), nAChR ( $\alpha_4/\beta_2$ ,  $\alpha_7$ ,  $\alpha_3\beta_4\alpha_5$ ,  $\alpha_6/\beta_2\beta_3$ ) and NMDA (NR1/NR2A, NR1/NR2B, NR1/NR2C and NR1/NR2D))
- Potassium, voltage-gated (KCNQ2/3 and KCNQ3/5)
- Potassium, calcium-activated (SK1, SK2 and SK3)

## Ion Channel Selectivity Profiling: Psychiatric Disorder

Our Psychiatric Disorder Channel Panel<sup>®</sup> includes neurotransmitter receptor channels that are important in anxiety and schizophrenia.

### Selectivity Profiling

Identification of a compound's target specificity and potential for off-target effects is a critical step in the drug discovery process and often includes assessments against specific target class families, critical safety targets or by therapeutic area. In addition to our [therapeutic area-specific Channel Panels<sup>®</sup>](#), we offer screening on a number of [electrophysiology platforms](#). When required, our scientists can design customized panels to meet a client's needs. As pioneers in the field of ion channels, we are able to provide expert consultation to facilitate interpretation of results.

### Ion Channels and Psychiatric Disorders

Antipsychotic and antianxiety drugs that include [ion channel](#) targets are generally thought to modulate synaptic transmission in specific brain regions (e.g., the limbic system in [schizophrenia](#), and both the limbic and brainstem reticular activating systems in anxiety). Our [Psychiatric Disorder Channel Panel<sup>®</sup>](#) includes neurotransmitter receptor channels that are important in [anxiety](#) (GABA) and schizophrenia (NMDA and nAChR $\alpha_7$ ). Voltage-gated potassium channels (KCNQ) that regulate excitability and are potential therapeutic targets for anxiety and schizophrenia also are included.

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