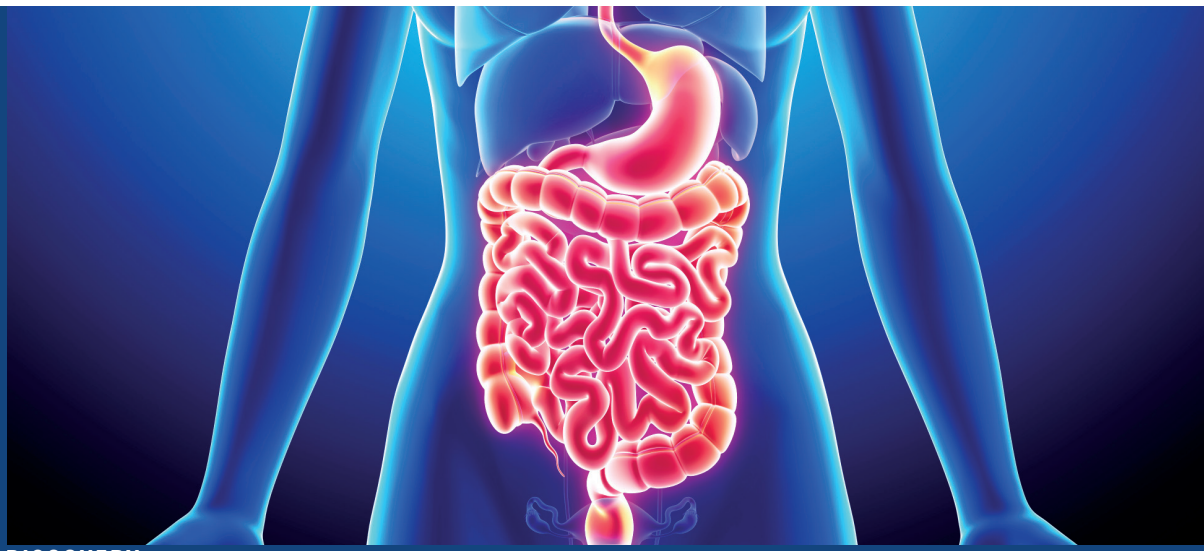
charles river

Summary

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



DISCOVERY

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Ion Channel Families:

- Chloride (CLC-1, CLC-2 and CFTR)
- Ligand-gated (5-HT3A)
- Potassium, calcium-activated (BK, IK, SK1, SK2 and SK3)
- Potassium, inward rectifier (Kir6.2/SUR1)
- Potassium, voltage-gated (Kv1.3)
- Purinergic receptors (P2X1 and P2X3)
- Sodium, epithelial (ENaC)
- Transient receptor potential (TRPM2 and TRPV1)

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Ion Channel Selectivity Profiling:
Metabolic and Gastrointestinal

Our Metabolic and Gastrointestinal Channel Panel® includes ion channels which have been linked to hormone secretion, gut motility, and electrolyte balance.

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®, 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 Metabolic Disease

Ion channels control metabolic processes such as hormone secretion, gut motility, and electrolyte balance. The Metabolic and Gastrointestinal Channel Panel® includes channels that regulate insulin secretion and are potential therapeutic targets for diabetes and obesity (voltage-gated potassium channel Kv1.3 and the ATP-sensitive potassium channel Kir6.2/SUR1). The panel also includes chloride channels (CFTR) that regulate electrolyte balance for potential treatment of diarrhea. Inflammatory bowel disease targets include the transient receptor potential vanilloid receptor TRPV1 and the purinergic receptor channel P2X3. Finally, the ionotropic serotonin receptor 5-HT3A represents a potential target for treatment of irritable bowel syndrome.