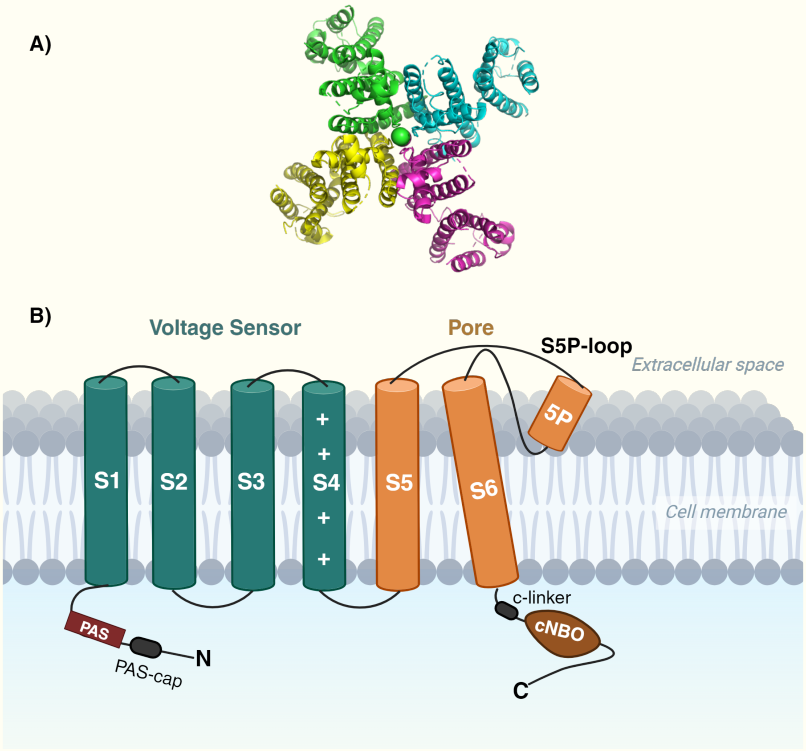
Cardiotoxic Compounds

In drug development, ensuring the safety of new medications is paramount, particularly concerning cardiotoxicity. The human ether-a-go-go-related gene (hERG) encodes a potassium channel crucial for cardiac repolarization, influencing the heart's electrical activity and action potential regulation. Compounds that block the hERG potassium channel can lead to life-threatening arrhythmias, notably Torsades de Pointes, due to disruptions in cardiac rhythm. This underscores the importance of assessing cardiotoxicity. Developing safe medications requires a comprehensive understanding of the pharmacokinetic profile, particularly regarding cardiotoxic effects. The proposed library can facilitate hERG potassium channel screening, aiding in the assessment of cardiotoxic safety for compounds of interest.

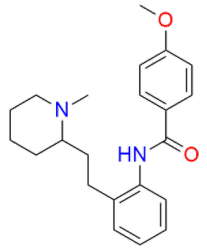
Library of Cardiotoxic Compounds contains 245 intense inhibitors/blockers of hERG potassium channel with biological activity data.

Related terms: *hERG, ion channel, potassium channel, toxicology, Kv11.1*



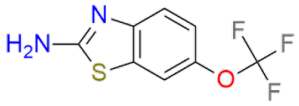
A) Cryo-EM structure of K^+-bound hERG channel.
B) Topology of Kv11.1 or hERG channel.
(Created by BioRender.com)

Highlights



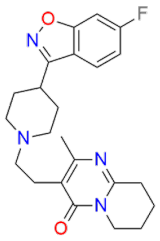
EBC-26698

Encainide is a voltage-gated sodium channel blocker.



EBC-11108

Riluzole is a glutamate antagonist used as an anticonvulsant.



EBC-13572

Risperidone is a second-generation antipsychotic medication used to treat many mental health disorders.