Voltage-Gated Sodium Channel Blockers Library from OTAVA

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Voltage-gated sodium channels are a class of large integral membrane proteins, composed of a highly processed α subunit and one or several smaller β subunits. The α-subunit forms ion-conducting aqueous pore whereas auxiliary β subunits modify the kinetics and voltage-dependence of channel gating.

Voltage-gated ion channels are implicated in the regulation of synaptic transmission, muscle contraction and hormone secretion in response to membrane depolarization.

It was demonstrated that dysfunction of voltage-gated sodium channels led to the development of a wide range of human pathologies such as inherited epilepsy, migraine, periodic paralysis, cardiac arrhythmia, chronic pain syndromes and others. Therefore, the inhibition of voltage-gated sodium channels could be an effective strategy to prevent the development of these diseases.

OTAVA Ltd. offers new Voltage-gated sodium channel blockers library containing 1630 compounds. The library was designed as a special screening collection comprising compounds with predicted sodium channels blocking activity and selectivity. The compounds have been selected by pharmacophore screening of OTAVA Drug-like Green Collection toward three ligand-based pharmacophore models. The models were generated based on the known sodium channel blockers divided into three groups according to their structural features.

This library comprises drug-like compounds only and provides an excellent basis for drug discovery.