

hNa_v 1.5 ion channel cell line

Product information

Catalogue ref: SB-HEK-hNav1.5

Quantity: 2 x 1 ml (1x10⁶ cells / ml)

Host cell: HEK-293

Species: Human

Platforms: Fluorescence, manual patch-clamp, QPatch

Reference inhibitor: Tetrodotoxin (TTX)

Background

The human voltage-gated sodium channel Na_v1.5 is encoded by the SCN5A gene.

The human Na_v1.5 is part of the tetrodotoxin resistant (TTX-R) sodium channels commonly found in the cardiac muscle and it is important for action potential initiation in human.

hNa_v1.5 channel is generally viewed as a target for arrhythmias and it has been shown to be involved in long Q-T Brugada syndrome.

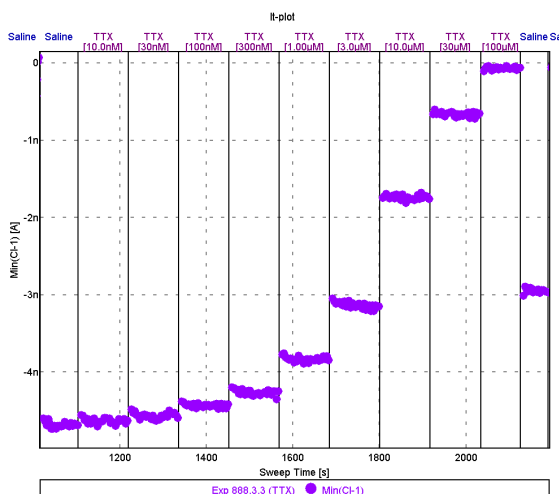


Figure 1: Representative time-course experiment recorded from a HEK-293 cell stably transfected with hNa_v1.5 channel. Plotted graph expressed as current (nA) versus time (s) showed block of current induced by increasing concentrations of TTX (10 nM-100 μM). Cell was stimulated with repetitive test pulses from -120mV to +0 mV steps at 1Hz (HP -120mV).

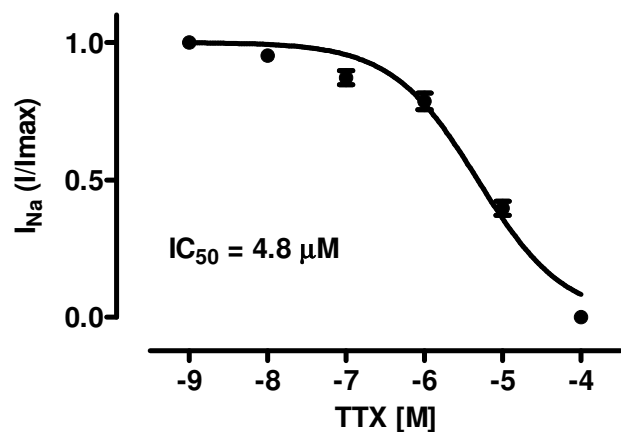


Figure 2: Concentration-dependent effect of TTX on I_{Na} currents (pA) obtained from cells stably transfected with human Na_v1.5 channel. Calculated IC₅₀ value was approximately 4.8 μM.

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