

# Vernakalant (Hydrochloride)

Catalog No: tcsc0799



## Available Sizes

**Size:** 2mg

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



## Specifications

**CAS No:**

748810-28-8

**Formula:**

$C_{20}H_{32}ClNO_4$

**Pathway:**

Membrane Transporter/Ion Channel

**Target:**

Potassium Channel

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Alternative Names:**

RSD1235 hydrochloride

### Observed Molecular Weight:

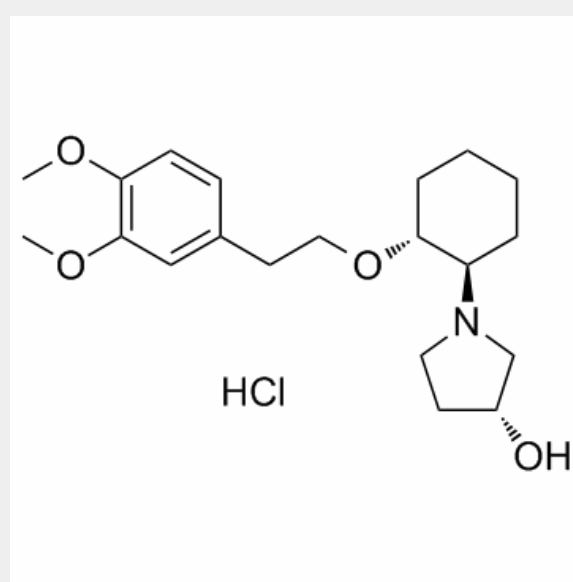
385.93

## Product Description

Vernakalant hydrochloride is a mixed voltage- and frequency-dependent **Na<sup>+</sup>** and atria-preferred **K<sup>+</sup> channel** blocker. **IC<sub>50</sub>** for block by Vernakalant of wild-type and mutant Kv1.5 channels Fractional block is  $13.35 \pm 0.93 \mu\text{M}$ ,  $0.61 \pm 0.03 \mu\text{M}$ , and  $1.63 \pm 0.09 \mu\text{M}$  for **Kv1.5 channel<sup>wt</sup>**, **Kv1.5 channel<sup>I508F</sup>**, **Kv1.5 channel<sup>T479A</sup>**, respectively.

IC50 & Target: IC50:  $13.35 \pm 0.93 \mu\text{M}$  (Kv1.5 channel<sup>wt</sup>),  $0.61 \pm 0.03 \mu\text{M}$  (I<sup>508F</sup>),  $1.63 \pm 0.09 \mu\text{M}$  (Kv1.5 channel<sup>T479A</sup>)[1]

**In Vitro:** Block of Kv1.5 by Vernakalant Hydrochloride is mediated after channel activation, because Vernakalant causes a relatively rapid onset of block of channel current upon depolarization but little evidence of resting or “tonic” block of the channel. In the presence of  $10 \mu\text{M}$  Vernakalant, rapid block is apparent after channel opening, and a steady-state current level is rapidly reached. The most important effect is the reduction in potency for Vernakalant centered at I502A, which had an **IC<sub>50</sub>** of  $329 \pm 19 \mu\text{M}$  (n=4-10), compared with a control **IC<sub>50</sub>** of  $13.4 \pm 0.9 \mu\text{M}$  (n=5-23), which is a 25-fold decrease in potency. V505A, I508A, T480A, and C500A showed lesser reductions in potency on Kv1.5, of between 3- and 4-fold. I508Y in our experiments increased the **IC<sub>50</sub>** for Vernakalant on Kv1.5 to  $24.7 \mu\text{M}$ , again similar to the reported value for hERG<sup>[1]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!