Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Tetrodotoxin

Catalog No: tcsc3772

Available Sizes

Size: 1mg

Specifications

CAS No:
4368-28-9

Formula:
$C_{11}H_{17}N_3O_8$

Pathway:
Membrane Transporter/Ion Channel

Target:
Sodium Channel

Purity / Grade:
>98%

Solubility:
DMSO

Alternative Names:
TTx

Observed Molecular Weight:
319.27

Product Description

Tetrodotoxin is a highly selective **sodium channel** blocker, with **IC_{50}** of 33 nM for **Nav1.6**.

IC50 & Target: Sodium channel[1]

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IC50: 33 nM (Nav1.6)[2]

In Vitro: The sodium channel (Nav) gene family is classified into Tetrodotoxin-sensitive (TTX-S; Nav1.1, Nav1.2, Nav1.3, Nav1.4, Nav1.6, and Nav1.7) and TTX-resistant (TTX-R) channels (Nav1.5, Nav1.8, and Nav1.9), each of which is associated with specific therapeutic indications based on their expression pattern, function, and genetic mutations. More than 97% of macroscopic Nav current in ND7-23 cells is carried by Tetrodotoxin-sensitive channels (300 nM TTX) and that Nav1.7 is the predominant channel contributing to this response (65% of peak inward current), followed by Nav1.6 (~20%) and negligible Nav1.3 currents (~2%). In addition, Tetrodotoxin (TTX) is selective for the Nav1.6 (IC_{50} of 33 nM) and 50-fold over Nav1.7 in human Nav channels expressed in mammalian cells, confirming previous studies of rodent Nav channels expressed in oocytes and HEK cells[2].