

PRODUCT INFORMATION



Tetrodotoxin (citrate free)

Item No. 14963

CAS Registry No.: 4368-28-9

Formal Name: (4R,4aR,5R,7S,9S,10S,10aR,11S,12S)-2-amino-1,4,4a,5,9,10-hexahydro-12-(hydroxymethyl)-5,9:7,10a-dimethano-10aH-[1,3]dioxocino[6,5-d]pyrimidine-4,7,10,11,12-pentol

Synonyms: Araregai Toxin, Maculotoxin, Tectin, TTX

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

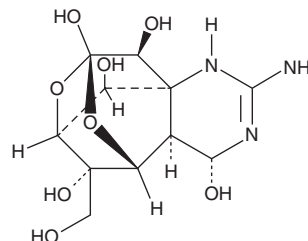
FW: 319.3

Purity: $\geq 98\%$

Supplied as: A solid

Storage: -20°C

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tetrodotoxin (TTX) is supplied as a solid. A stock solution may be made by dissolving the TTX in the solvent of choice. TTX is soluble in citrate buffer, pH 4.8, at a concentration of approximately 3 mM. We do not recommend storing the aqueous solution for more than one day.

Description

TTX is a potent marine-derived neurotoxin that reversibly inhibits the inward sodium current through voltage-activated sodium (NaV) channels, blocking nerve and muscle action potentials. It inhibits the NaV current in frog muscle and squid axon with IC_{50} values of 4.1 and 5.2 nM, respectively, and binds to rat brain membranes with a K_d value of 1.8 nM.¹ TTX was used in Hodgkin and Huxley's classic experiments to elucidate the physical biology of nerve action potentials and remains an indispensable neuroscience tool to pharmacologically dissect the contribution of the NaV current in excitable neurons and to rationally design compounds for the treatment of neuropathic pain.¹

Reference

1. Moczydlowski, E.G. The molecular mystique of tetrodotoxin. *Toxicon* **63**, 165-183 (2013).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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