

PRODUCT INFORMATION



4,9-Anhydrotetrodotoxin

Item No. 19084

CAS Registry No.: 13072-89-4
Formal Name: (4S,5aS,6S,8R,9S,10S,11S,11aR,12R)-2-amino-1,4,5a,6,8,9,10,11-octahydro-9-(hydroxymethyl)-6,10-epoxy-4,8,11a-metheno-11aH-oxocino[4,3-f][1,3,5]oxadiazepine-6,9,11-triol

Synonym: 4,9-anhydro-TTX

MF: C₁₁H₁₅N₃O₇

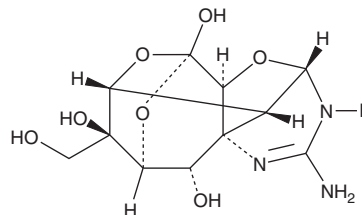
FW: 301.3

Purity: ≥98%

Supplied as: A solid or film

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

4,9-Anhydrotetrodotoxin (4,9-anhydro-TTX) is supplied as a solid or film. A stock solution may be made by dissolving the 4,9-anhydro-TTX in the solvent of choice, which should be purged with an inert gas. 4,9-anhydro-TTX is soluble in organic solvents such as ethanol. It is also soluble in water. The solubility of 4,9-anhydro-TTX in ethanol and water is approximately 5 and 1 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

Description

4,9-anhydro-TTX is a derivative of TTX that selectively blocks inward sodium current through Na_v1.6 voltage-activated sodium channels (IC₅₀ = 7.8 nM in *Xenopus* oocytes).¹⁻³ It demonstrates IC₅₀ values of 1.3, 0.34, 0.99, 78.5, 1.3, and >30 μM for Na_v1.2, Na_v1.3, Na_v1.4, Na_v1.5, Na_v1.7, and Na_v1.8, respectively.¹

References

1. Rosker, C., Lohberger, B., Hofer, D., *et al.* The TTX metabolite 4,9-anhydro-TTX is a highly specific blocker of the Na_v1.6 voltage-dependent sodium channel. *Am. J. Physiol. Cell Physiol.* **293**(2), C783-C789 (2007).
2. Teramoto, N. and Yotsu-Yamashita, M. Selective blocking effects of 4,9-anhydrotetrodotoxin, purified from a crude mixture of tetrodotoxin analogues, on Na_v1.6 channels and its chemical aspects. *Mar. Drugs* **13**(2), 984-995 (2015).
2. 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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