

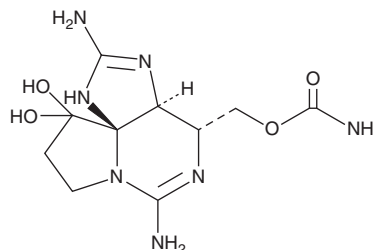
PRODUCT INFORMATION



Saxitoxin

Item No. 45566

CAS Registry No.: 35523-89-8
Formal Name: (3aS,4R,10aS)-2,6-diamino-4-[[[(aminocarbonyl)oxy]methyl]-3a,4,8,9-tetrahydro-1H,10H-pyrrolo[1,2-c]purine-10,10-diol
Synonym: STX
MF: C₁₀H₁₇N₇O₄
FW: 299.3
Supplied as: A 25 µg/ml solution in 3 mM hydrochloric acid
Storage: -20°C
Stability: ≥4 years



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

Description

Saxitoxin is a marine guanidinium toxin and voltage-gated sodium channel blocker ($IC_{50} = 4.3 \text{ nM}$).^{1,2} It selectively binds to sodium channels in rat brain and skeletal muscle over rat heart homogenates (K_d s = 0.114, 0.49, and 10 nM, respectively).³ Saxitoxin (3 and 10 µM) also inhibits L-type calcium channels in isolated mouse ventricular myocytes and tsA201 cells and human-ether-a-go-go (hERG), also known as K_v11.1, in HEK293 cells.^{4,5} It induces tachycardia, hypotension, myocardial failure, and cardiac arrest in anesthetized cats when administered intravenously at a dose of 10 µg/kg.⁶

References

1. Llewellyn, L., Negri, A., and Quilliam, M. High affinity for the rat brain sodium channel of newly discovered hydroxybenzoate saxitoxin analogues from the dinoflagellate *Gymnodinium catenatum*. *Toxicon* **43**(1), 101-104 (2004).
2. Llewellyn, L.E. Saxitoxin, a toxic marine natural product that targets a multitude of receptors. *Nat. Prod. Rep.* **23**(2), 200-222 (2006).
3. Rogart, R.B. High-STX-affinity vs. low-STX-affinity Na⁺ channel subtypes in nerve, heart, and skeletal muscle. *Ann. N. Y. Acad. Sci.* **479**, 402-430 (1986).
4. Su, Z., Sheets, M., Ishida, H., et al. Saxitoxin blocks L-type I_{Ca} . *J. Pharmacol. Exp. Ther.* **308**(1), 324-329 (2004).
5. Wang, J., Salata, J.J., and Bennett, P.B. Saxitoxin is a gating modifier of hERG K⁺ channels. *J. Gen. Physiol.* **121**(6), 583-598 (2003).
6. Andrinolo, D., Michea, L.F., and Lagos, N. Toxic effects, pharmacokinetics and clearance of saxitoxin, a component of paralytic shellfish poison (PSP), in cats. *Toxicon* **37**(3), 447-464 (1999).

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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