



LKT Laboratories, Inc.

Brevetoxin 2

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Product Information

Product ID B6917

CAS No. 79580-28-2

Chemical Name

Synonym PbTx-2

Formula C₅₀H₇₀O₁₄

Formula Wt. 895.20

Melting Point 265-270 °C

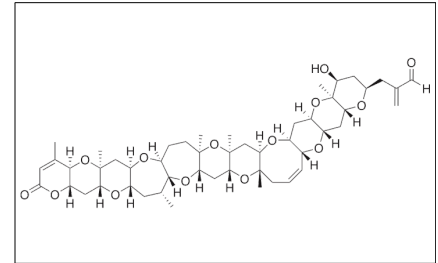
Purity ≥95%

Solubility

Store Temp -20 °C

Ship Temp Ambient

Description Brevetoxins are lipid-soluble polyether neurotoxins initially produced by the dinoflagellate *Karenia brevis*. Brevetoxins act as agonists, binding the neurotoxin site 5 on SCN4A/Nav1.4 and SCN5A/Nav1.5 voltage-gated Na⁺ channels in skeletal muscle and cardiac tissue, producing a channel opening effect; this activity results in bronchoconstriction and airway inflammation in vivo. Stimulation of the voltage-gated Na⁺ channels also induces NMDA receptor-mediated release of L-glutamate and L-aspartate in neurons. Activity at these channels also activates Pyk2 and Src, inducing downstream signaling cascades. Brevetoxin 2 forms DNA adducts with cytidine in isolated lung cells and with adenosine and guanosine in vivo, indicating carcinogenic activity.



Bulk quantities available upon request

Product ID	Size
B6917	100 µg
B6917	1 mg
B6917	5 mg

References Zaias J, Fleming LE, Baden DG, et al. Repeated exposure to aerosolized brevetoxin-3 induces prolonged airway hyperresponsiveness and lung inflammation in sheep. *Inhal Toxicol.* 2011 Mar;23(4):205-11. PMID: 21456953.

Liberona JL, Cárdenas JC, Reyes R, et al. Sodium-dependent action potentials induced by brevetoxin-3 trigger both IP₃ increase and intracellular Ca²⁺ release in rat skeletal myotubes. *Cell Calcium.* 2008 Sep;44(3):289-97. PMID: 18276006.

Radwan FF, Ramsdell JS. Brevetoxin forms covalent DNA adducts in rat lung following intratracheal exposure. *Environ Health Perspect.* 2008 Jul;116(7):930-6. PMID: 18629316.

Cao Z, George J, Baden DG, et al. Brevetoxin-induced phosphorylation of Pyk2 and Src in murine neocortical neurons involves distinct signaling pathways. *Brain Res.* 2007 Dec 12;1184:17-27. PMID: 17963734.

Bottein Dechraoui MY, Ramsdell JS. Type B brevetoxins show tissue selectivity for voltage-gated sodium channels: comparison of brain, skeletal muscle and cardiac sodium channels. *Toxicol.* 2003 Jun;41(7):919-27. PMID: 12782093.

Berman FW, Murray TF. Brevetoxins cause acute excitotoxicity in primary cultures of rat cerebellar granule neurons. *J Pharmacol Exp Ther.* 1999 Jul;290(1):439-44. PMID: 10381810.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.