



LKT Laboratories, Inc.

Brevetoxin 3

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Product Information

Product ID B6918

CAS No. 85079-48-7

Chemical Name

Synonym PbTx-3

Formula $C_{50}H_{72}O_{14}$

Formula Wt. 897.20

Melting Point 291-293°C. (dec.)

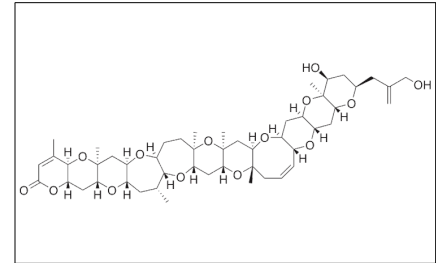
Purity $\geq 95\%$

Solubility Soluble in acetone, ethyl acetate, ethanol, and methanol.

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. Brevetoxin 3 is a type B brevetoxin and a metabolite of brevetoxin 2.



Bulk quantities available upon request

Product ID	Size
B6918	100 µg
B6918	1 mg
B6918	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.

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.

Radwan FF, Ramsdell JS. Characterization of in vitro oxidative and conjugative metabolic pathways for brevetoxin (PbTx-2). *Toxicol Sci.* 2006 Jan;89(1):57-65. PMID: 16221966.

Colman JR, Ramsdell JS. The type B brevetoxin (PbTx-3) adversely affects development, cardiovascular function, and survival in Medaka (*Oryzias latipes*) embryos. *Environ Health Perspect.* 2003 Dec;111(16):1920-5. PMID: 14644667.

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.

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