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.

References


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