

ProTx-II Biotin

Product name : ProTx-II Biotin	Synonyms : Protoxin 2 Biotin
Catalog # : 12PTB002	
Product description	
<p>ProTx-II is a peptide that was originally isolated from Thrixopelma pruriens (Peruvian green velvet tarantula). ProTx-II inhibits voltage-gated calcium and sodium channels (site 4). This toxin inhibits activation by shifting the voltage-dependence of channel activation to more positive potentials. Potently inhibits all sodium channel subtypes tested (Na_v1.2/SCN2A, Na_v1.5/SCN5A, Na_v1.7/SCN9A, and Na_v1.8/SCN10A). Is approximately 15-fold more potent on Na_v1.7/SCN9A than on Na_v1.5/SCN5A channels. Acts on Ca_v3.1/CACNA1G, and interacts more weakly with the related T-Type channel Ca_v3.2/CACNA1H but potently inhibits the L-type calcium channel Ca_v1.2/CACNA1C. Binds to phospholipids. ProTx-II, a selective inhibitor of Na_v1.7 sodium channels, blocks action potential propagation in nociceptors.</p>	
Product specifications	
<p>AA sequence: Biotin-Tyr-Cys²-Gln-Lys-Trp-Met-Trp-Thr-Cys⁹-Asp-Ser-Glu-Arg-Lys-Cys¹⁵-Cys¹⁶-Glu-Gly-Met-Val-Cys²¹-Arg-Leu-Trp-Cys²⁵-Lys-Lys-Lys-Leu-Trp-OH Disulfide bonds: Cys²-Cys¹⁶, Cys⁹-Cys²¹ and Cys¹⁵-Cys²⁵ Length (aa): 30 Formula: C₁₇₈H₂₅₄N₄₈O₄₃S₉ Appearance: White lyophilized solid Molecular Weight: 4052.74 Da CAS number: Source: Synthetic Counterion: TFA salts Solubility: Water or saline buffer, 2 mg/mL maximum (recommendation)</p>	
Formulation	
<p>Storage/Stability: Shipped at ambient temperature under lyophilized powder. Store at -20°C (-4°F). Do not freeze-thaw. Aliquot sample if required and store at -80°C (-112°F). Expiry date: One year Use restrictions: For laboratory use only. Not for drug, household or other uses. Not for use in diagnostic or therapeutic procedures.</p>	
Related products	
<ul style="list-style-type: none"> • ProTx-I - #12PTX001: voltage-gated sodium channel inhibitor • ProTx-II - #07PTX002: Na_v1.7 selective inhibitor • Huwentoxin I - #07HWT001: N-type Ca²⁺ channel and TTX-S inhibitor • Huwentoxin-IV - #08HWT002: voltage-gated sodium channel inhibitor • Hainantoxin IV - #12HTX001: selective blocker of TTX-S channels • Jingzhaotoxin III - #12JZH003: selective blocker of Na_v1.5 channel • GsAF-I - #12GSF001: voltage-gated sodium channel inhibitor • GsAF-II - #12GSF002: voltage-gated sodium channel inhibitor • Phrixotoxin-3 - #13PHX003: Na_v1.2 selective blocker • μ-conotoxin PIIIA - #08CON006: Na_v1.2, Na_v1.4 and Na_v1.7 blocker 	
References	
<ul style="list-style-type: none"> • Edgerton, G. B., <i>et al.</i> (2008) Evidence for multiple effects of ProTxII on activation gating in Na(V)1.5, <i>Toxicon</i> • Priest, B. T., <i>et al.</i> (2007) ProTx-I and ProTx-II: gating modifiers of voltage-gated sodium channels, <i>Toxicon</i> • Smith, J. J., <i>et al.</i> (2005) Differential phospholipid binding by site 3 and site 4 toxins. Implications for structural variability between voltage-sensitive sodium channel domains, <i>J Biol Chem</i> • Middleton, R. E., <i>et al.</i> (2002) Two tarantula peptides inhibit activation of multiple sodium channels, <i>Biochemistry</i> 	

For laboratory research use only