

Huwentoxin I

Product name : Huwentoxin I	Synonyms : HwTx I
Catalog # : 07HWT001	
<p>Product description</p> <p>Huwentoxin-I (HwTx-I) is a neurotoxin that was originally isolated from the venom of the Chinese bird spider <i>Ornithoctonus huwena</i>. Huwentoxin-I is known to be an inhibitor of tetrodotoxin-sensitive voltage-gated sodium channels (TTX-S) ($IC_{50} \sim 50$ nM) and N-type voltage-sensitive calcium channels ($IC_{50} \sim 100$ nM) in mammalian DRG, hippocampus and insect's DUM neurons. It has only a very weak effect on L-type calcium channels, no effect on TTX-R channels and has virtually no effect on muscle sodium channels. The selectivity of Huwentoxin-I for calcium channels appears to be higher than ω-conotoxin MVIIA and equivalent to ω-conotoxin GVIA. Huwentoxin-I demonstrated an antinociceptive effect in the rat model of the formalin test when administered intrathecally ($ED_{50} \sim 0.28$ μg/kg), without side effects of the ones led by ω-conotoxin MVIIA.</p>	
<p>Product specifications</p> <p>AA sequence: Ala-Cys²-Lys-Gly-Val-Phe-Asp-Ala-Cys⁹-Thr-Pro-Gly-Lys-Asn-Glu-Cys¹⁶-Cys¹⁷-Pro-Asn-Arg-Val-Cys²²-Ser-Asp-Lys-His-Lys-Trp-Cys²⁹-Lys-Trp-Lys-Leu-OH</p> <p>Disulfide bonds: Cys²-Cys¹⁷, Cys⁹-Cys²² and Cys¹⁶-Cys²⁹</p> <p>Length (aa): 33</p> <p>Formula: C₁₆₈H₂₅₀N₄₆O₄₁S₆</p> <p>Appearance: White lyophilized solid</p> <p>Molecular Weight: 3751.77 Da</p> <p>CAS number:</p> <p>Source: Synthetic</p> <p>Counterion: TFA salts</p> <p>Solubility: Water or saline buffer, 5 mg/mL maximum (recommendation)</p>	
<p>Formulation</p> <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).</p> <p>Expiry date: One year</p> <p>Use restrictions: For laboratory use only. Not for drug, household or other uses. Not for use in diagnostic or therapeutic procedures.</p>	
<p>Related products</p> <ul style="list-style-type: none"> • Huwentoxin IV - #08HWT002: TTX-S selective inhibitor • Hainantoxin IV - #12HTX001: selective blocker of TTX-S channels • ω-conotoxin MVIIA - #08CON002: blocker of voltage-dependent N-type Ca²⁺ channels Ca_v2.2 channel • ω-conotoxin GVIA - #08CON003: blocker of voltage-dependent N-type Ca²⁺ channels Ca_v2.2 channel 	
<p>References</p> <ul style="list-style-type: none"> • Wang M, <i>et al.</i> (2007) The cross channel activities of spider neurotoxin huwentoxin-I on rat dorsal root ganglion neurons. <i>Biochem Biophys Res Commun.</i> • Wang YR, <i>et al.</i> (2007) Effect of Huwentoxin-I on the Fas and TNF apoptosis pathway in the hippocampus of rat with global cerebral ischemia. <i>Toxicon</i> • Peng, K., <i>et al.</i> (2001) The effect of Huwentoxin-I on Ca(2+) channels in differentiated NG108-15 cells, a patch-clamp study, <i>Toxicon</i> • Liang, S. P., <i>et al.</i> (2000) The presynaptic activity of huwentoxin-I, a neurotoxin from the venom of the chinese bird spider <i>Selenocosmia huwena</i>, <i>Toxicon</i> 	

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