

Huwentoxin IV

Product name : Huwentoxin IV	Synonyms : HwTx IV
Catalog # : 08HWT002	
Product description <p>Huwentoxin IV (HwTx-IV) is a neurotoxin that was originally isolated from <i>Haplopelma schmidti</i> (Chinese bird spider). This lethal neurotoxin acts selectively on tetrodotoxin-sensitive (TTX-S) voltage-gated sodium channels, with an IC_{50} of 30 nM in rat DRG neurons. It preferentially inhibits neuronal voltage-gated sodium channel subtype hNa_v1.7 (SCN9A, IC_{50} is 26 nM), rNa_v1.2 (SCN2A, IC_{50} is 150 nM), and rNa_v1.3 (SCN3A, IC_{50} is 338 nM), compared with muscle subtypes rNa_v1.4 (SCN4A) and hNa_v1.5 (SCN5A) (IC_{50} is > 10 μM). Huwentoxin IV inhibits the activation of sodium channels by trapping the voltage sensor of domain II of the site 4 in the inward, closed configuration.</p>	
Product specifications <p>AA sequence: Glu-Cys²-Leu-Glu-Ile-Phe-Lys-Ala-Cys⁹-Asn-Pro-Ser-Asn-Asp-Gln-Cys¹⁶-Cys¹⁷-Lys-Ser-Ser-Lys-Leu-Val-Cys²⁴-Ser-Arg-Lys-Thr-Arg-Trp-Cys³¹-Lys-Tyr-Gln-Ile-NH₂ Disulfide bonds: Cys²-Cys¹⁷, Cys⁹-Cys²⁴ and Cys¹⁶-Cys³¹ Length (aa): 35 Formula: C₁₇₄H₂₇₈N₅₂O₅₁S₆ Appearance: White lyophilized solid Molecular Weight: 4107,2 Da CAS number: Not available Source: Synthetic Counterion: TFA salts Solubility: Water or saline buffer, 5 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-II - #07PTX002: Na_v1.7 selective inhibitor • Biotinyl-ProTx-II - #12PTB002: Na_v1.7 selective inhibitor • Huwentoxin I - #07HWT001: N-type Ca²⁺ channel and TTX-S 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"> • Peigneur S., et al. (2012) A natural point mutation changes both target selectivity and mechanism of action of sea anemone toxins. <i>The FASEB Journal</i> • Diao J., et al. (2003) cDNA sequence analysis of seven peptide toxins from the spider <i>Selenocosmia huwena</i>, <i>Toxicon</i> • Peng K., et al. (2002) Function and solution structure of huwentoxin-IV, a potent neuronal tetrodotoxin (TTX)-sensitive sodium channel antagonist from Chinese bird spider <i>Selenocosmia huwena</i>, <i>J Biol Chem</i> 	

For laboratory research use only