

Psalmotoxin-1

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| Product name : Psalmotoxin 1 | Synonyms : PcTx1, π -TRTX-Pc1a |
| Catalog # : 13PCT001 | |
| Product description <p>Psalmotoxin-1 (PcTx1, Pi-theraphotoxin-Pc1a) has been isolated from the venom of the Spider <i>Psalmopoeus cambridgei</i> (Trinidad chevron tarantula). PcTx1 is known to block potently ($IC_{50} = 1$ nM) and selectively the H⁺-gated sodium channel ASIC1a (acid-sensitive ion channel 1a). The blockage is rapid and reversible. PcTx1 can distinguish between the two ASIC1 splice variants ASIC1a and ASIC1b. PcTx1 loses its capacity to block ASIC1a as soon as this subunit is associated with another member of the family (ASIC2a or ASIC3). PcTx1 demonstrates an analgesic effect in acute and neuropathic pain models.</p> | |
| Product specifications <p>AA sequence: Glu-Asp-Cys³-Ile-Pro-Lys-Trp-Lys-Gly-Cys¹⁰-Val-Asn-Arg-His-Gly-Asp-Cys¹⁷-Cys¹⁸-Glu-Gly-Leu-Glu-Cys²³-Trp-Lys-Arg-Arg-Arg-Ser-Phe-Glu-Val-Cys³³-Val-Pro-Lys-Thr-Pro-Lys-Thr-OH Disulfide bonds: Cys³-Cys¹⁸, Cys⁹-Cys²³, and Cys¹⁷-Cys³³ Length (aa): 40 Formula: C₂₀₀H₃₁₂N₆₂O₅₇S₆ Molecular Weight: 4690.82 Da Appearance: White lyophilized solid Solubility (recommendations): water or saline buffer, 5 mg/mL maximum CAS number: not available Source: Synthetic Counterion: TFA salts</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"> • APETx2 - #07APE002: ASIC3 selective blocker • Ugr 9-1 - #13UGR001: blocker of ASIC3 channel | |
| References <ul style="list-style-type: none"> • Qadri YJ., <i>et al.</i> (2009) Psalmotoxin-1 docking to human acid-sensing ion channel-1. <i>JBC</i>. • Mazzuca M., <i>et al.</i> (2007) A tarantula peptide against pain via ASIC1a channels and opioid mechanisms. <i>Nat Neurosci</i>. • Bubien JK., <i>et al.</i> (2004) Cation selectivity and inhibition of malignant glioma Na⁺ channels by Psalmotoxin 1. <i>Am J Physiol Cell Physiol</i>. • Escoubas, P., <i>et al.</i> (2000) Isolation of a tarantula toxin specific for a class of proton-gated Na⁺ channels, <i>J Biol Chem</i>. • Escoubas, P., <i>et al.</i> (2003) Recombinant production and solution structure of PcTx1, the specific peptide inhibitor of ASIC1a proton-gated cation channels, <i>Protein Sci</i>. | |

For laboratory research use only