

APETx2

Product name : APETx2	Synonyms :
Catalog # : 07APE002	
<p>Product description</p> <p>APETx2 is a toxin that was originally isolated from <i>Anthopleura elegantissima</i> (Sea anemone). APETx2 selectively blocks the H(+)-gated sodium channel ASIC3 (ACCN3). The blockage is rapid and reversible. This toxin does not block isoform ASIC1a (unlike Psalmotoxin 1) and isoform ASIC1b of ASIC1 (ACCN2), nor ASIC2 (ACCN1). It also inhibits the heteromeric ASIC2b-ASIC3 channel, and has less affinity for ASIC1b-ASIC3, ASIC1a-ASIC3, and no effect on the ASIC2a-ASIC3 channels. IC₅₀ is 63 nM on ASIC3 channel. IC₅₀ is 117 nM on ASIC2b-ASIC3 heteromeric channel. IC₅₀ is 0.9 μM on ASIC1b-ASIC3 heteromeric channel. IC₅₀ is 2 μM on ASIC1a-ASIC3 heteromeric channel. Interestingly, recent studies demonstrated that APETx2 also inhibits Na_v1.8 currents with an IC₅₀ of around 2 μM.</p>	
<p>Product specifications</p> <p>AA sequence: Gly-Thr-Ala-Cys⁴-Ser-Cys⁶-Gly-Asn-Ser-Lys-Gly-Ile-Tyr-Trp-Phe-Tyr-Arg-Pro-Ser-Cys²⁰-Pro-Thr-Asp-Arg-Gly-Tyr-Thr-Gly-Ser-Cys³⁰-Arg-Tyr-Phe-Leu-Gly-Thr-Cys³⁷-Cys³⁸-Thr-Pro-Ala-Asp-OH</p> <p>Disulfide bonds: Cys⁴-Cys³⁷, Cys⁶-Cys³⁰ and Cys²⁰-Cys³⁸</p> <p>Length (aa): 42</p> <p>Formula: C₁₉₆H₂₈₀N₅₄O₆₁S₆</p> <p>Appearance: White lyophilized solid</p> <p>Molecular Weight: 4561.87 Da</p> <p>CAS number: Not available</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"> • Psalmotoxin 1 - #13PCT001: selective ASIC1a blocker • Ugr 9-1 - #13UGR001: blocker of ASIC3 channel 	
<p>Smarttox's APETx2 citations</p> <ul style="list-style-type: none"> • Peigneur S, <i>et al.</i> (2012) A natural point mutation changes both target selectivity and mechanism of action of sea anemone toxins. <i>FASEB J.</i> • Blanchard MG, Rash LD, Kellenberger S. (2011) Inhibition of voltage-gated Na(+) currents in sensory neurons by the sea anemone toxin APETx2. <i>Br J Pharmacol.</i> • Tsuchimochi H, Yamauchi K, McCord JL, Kaufman MP. (2011) Blockade of Acid Sensing Ion Channels Attenuates the Augmented Exercise Pressor Reflex in Rats with Chronic Femoral Artery Occlusion. <i>J Physiol.</i> <p>APETx2 References</p> <ul style="list-style-type: none"> • Delaunay A., <i>et al.</i> (2012) Human ASIC3 channel dynamically adapts its activity to sense the extracellular pH in both acidic and alkaline directions. <i>PNAS.</i> • Chagot B., <i>et al.</i> (2005) Solution structure of APETx2, a specific peptide inhibitor of ASIC3 proton-gated channels, <i>Protein Sci.</i> • Diochot S., <i>et al.</i> (2004) A new sea anemone peptide, APETx2, inhibits ASIC3, a major acid-sensitive channel in sensory neurons. <i>EMBO J.</i> 	

For laboratory research use only