

# PRODUCT INFORMATION



## Tertiapin Q (trifluoroacetate salt)

Item No. 36907

**Formal Name:** L-alanyl-L-leucyl-L-cysteinyl-L-asparaginyl-L-cysteinyl-L-asparaginyl-L-arginyl-L-isoleucyl-L-isoleucyl-L-isoleucyl-L-prolyl-L-histidyl-L-glutamyl-L-cysteinyl-L-tryptophyl-L-lysyl-L-lysyl-L-cysteinylglycyl-L-lysyl-L-lysineamide, cyclic (3→14),(5→18)-bis(disulfide), trifluoroacetate salt

**Synonyms:** TPN(M13Q), TPNQ

**Peptide Sequence:** ALCNCNRIIPHQCWKKCGKK-NH<sub>2</sub>

**MF:** C<sub>106</sub>H<sub>175</sub>N<sub>35</sub>O<sub>24</sub>S<sub>4</sub> • XCF<sub>3</sub>COOH

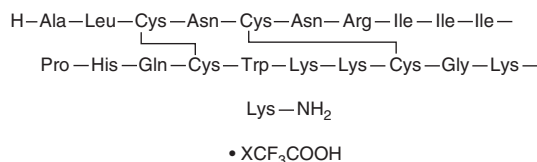
**FW:** 2,452.0

**Purity:** ≥95%

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Tertiapin Q (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the tertiapin Q (trifluoroacetate salt) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

Tertiapin Q is a peptide derivative of the honeybee venom peptide and inhibitor of inwardly rectifying potassium (K<sub>ir</sub>) channels, tertiapin.<sup>1</sup> It inhibits heteromultimeric potassium channels composed of G protein-activated inward rectifier potassium channel 1 (GIRK1) and GIRK4, also known as K<sub>ir</sub>3.1 and K<sub>ir</sub>3.4, respectively, as well as the inward-rectifier potassium channel 1 (K<sub>ir</sub>1.1; K<sub>s</sub> = 13.3 and 1.3 nM, respectively).<sup>2</sup> Tertiapin Q inhibits voltage-stimulated hyperpolarization and increases action potential duration in mouse dorsal root ganglion neurons in a concentration-dependent manner.<sup>3</sup> It inhibits BK-type potassium channels in *Xenopus* oocytes expressing the human BK channel  $\alpha$  subunit (IC<sub>50</sub> = 5.8 nM).

### References

1. Jin, W., Klem, A.M., Lewis, J.H., *et al.* Mechanisms of inward-rectifier K<sup>+</sup> channel inhibition by tertiapin-Q. *Biochemistry* **38**(43), 14294-14301 (1999).
2. Jin, W. and Lu, Z. Synthesis of a stable form of tertiapin: A high-affinity inhibitor for inward-rectifier K<sup>+</sup> channels. *Biochemistry* **38**(43), 14286-14293 (1999).
3. Kanjhan, R., Coulson, E.J., Adams, D.J., *et al.* Tertiapin-Q blocks recombinant and native large conductance K<sup>+</sup> channels in a use-dependent manner. *J. Pharmacol. Exp. Ther.* **314**(3), 1353-1361 (2005).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/21/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
[WWW.CAYMANCHEM.COM](http://WWW.CAYMANCHEM.COM)