

PRODUCT INFORMATION



Tat-CBD3 (trifluoroacetate salt)

Item No. 37448

Peptide Sequence: YGRKKRRQRRRARSRLAELRGVPRGL-OH

MF: C₁₃₄H₂₄₃N₅₉O₃₂ • XCF₃COOH

FW: 3,192.7

Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

H—Tyr—Gly—Arg—Lys—Lys—Arg—Arg—Gln—Arg—Arg—

Arg—Ala—Arg—Ser—Arg—Leu—Ala—Glu—Leu—Arg—

Gly—Val—Pro—Arg—Gly—Leu—OH

• XCF₃COOH

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

Laboratory Procedures

Tat-CBD3 (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the Tat-CBD3 (trifluoroacetate salt) in water. We do not recommend storing the aqueous solution for more than one day.

Description

Tat-CBD3 is an inhibitor of the protein-protein interaction between the N-type voltage-gated calcium channel Ca_v2.2 and collapsin response mediator protein 2 (CRMP2).^{1,2} It also inhibits the protein-protein interaction between CRMP2 and the NMDA receptor NR2B subunit.³ Tat-CBD3 (10 μM) inhibits the Ca_v2.2-CRMP2 interaction by 43% in a cell-free assay and the NMDA receptor NR2B subunit-CRMP2 interaction in an immunoprecipitation assay.^{2,3} It reduces voltage-induced calcium currents by approximately 60% in primary rat dorsal root ganglion (DRG) neurons and glutamate-induced increases in cytosolic calcium levels in primary rat hippocampal neurons.^{1,3} Tat-CBD3 (20 mg/kg) decreases infarct volume in a rat model of cerebral ischemia induced by middle cerebral artery occlusion (MCAO).⁴ Intrathecal administration of Tat-CBD3 (20 μg/5 μl) prevents carrageenan-induced thermal hypersensitivity in rats.²

References

1. Brittain, J.M., Duarte, D.B., Wilson, S.M., *et al.* Suppression of inflammatory and neuropathic pain by uncoupling CRMP-2 from the presynaptic Ca²⁺ channel complex. *Nat. Med.* **17(7)**, 822-829 (2011).
2. François-Moutal, L., Wang, Y., Moutal, A., *et al.* A membrane-delimited N-myristoylated CRMP2 peptide aptamer inhibits CaV2.2 trafficking and reverses inflammatory and postoperative pain behaviors. *Pain* **156(7)**, 1247-1264 (2015).
3. Brustovetsky, T., Pellman, J.J., Yang, X.F., *et al.* Collapsin response mediator protein 2 (CRMP2) interacts with N-methyl-D-aspartate (NMDA) receptor and Na⁺/Ca²⁺ exchanger and regulates their functional activity. *J. Biol. Chem.* **289(11)**, 7470-7482 (2014).
4. Brittain, J.M., Pan, R., You, H., *et al.* Disruption of NMDAR-CRMP-2 signaling protects against focal cerebral ischemic damage in the rat middle cerebral artery occlusion model. *Channels (Austin)* **6(1)**, 52-59 (2012).

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, 10/11/2023

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