

# PRODUCT INFORMATION



## $\alpha$ -Conotoxin AulB (trifluoroacetate salt)

Item No. 33795

**Formal Name:** cyclic (2→8), (3→15)-bis(disulfide),  
glycyl-L-cysteinyl-L-cysteinyl-L-  
seryl-L-tyrosyl-L-prolyl-L-prolyl-L-  
cysteinyl-L-phenylalanyl-L-alanyl-  
L-threonyl-L-asparaginyl-L-prolyl-  
L- $\alpha$ -aspartyl-L-cysteinamide,  
trifluoroacetate salt

**Synonym:** GCCSYPPCFATNPDC

**MF:**  $C_{65}H_{89}N_{17}O_{21}S_4 \cdot XCF_3COOH$

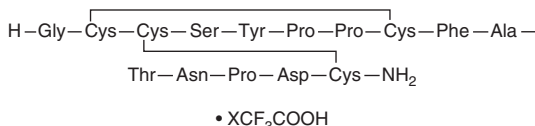
**FW:** 1572.8

**Purity:**  $\geq 95\%$

**Supplied as:** A solid

**Storage:**  $-20^\circ C$

**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

$\alpha$ -Conotoxin AulB (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the  $\alpha$ -conotoxin AulB (trifluoroacetate salt) in water. The solubility of  $\alpha$ -conotoxin AulB (trifluoroacetate salt) in water is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

$\alpha$ -Conotoxin AulB is a conotoxin that has been found in *C. aulicus* and has receptor antagonist and analgesic activity.<sup>1</sup> It is a peptide antagonist of  $\alpha 3\beta 4$  subunit-containing nicotinic acetylcholine receptors (nAChRs;  $IC_{50} = 0.75 \mu M$ ). It is greater than 100-fold selective for  $\alpha 3\beta 4$  subunit-containing nAChRs over those containing  $\alpha 2\beta 2$ ,  $\alpha 2\beta 4$ ,  $\alpha 3\beta 2$ ,  $\alpha 4\beta 2$ ,  $\alpha 4\beta 4$ , or  $\alpha 1\beta 1\gamma \delta$  subunits but does inhibit homomeric  $\alpha 7$  nAChRs by 34% at 3  $\mu M$ . Intrathecal administration of  $\alpha$ -conotoxin AulB (0.2 and 2 nmol/animal) reduces mechanical allodynia in a rat model of neuropathic pain induced by partial sciatic nerve ligation.<sup>2</sup> It also reverses somatic signs of withdrawal in a mouse model of morphine withdrawal when administered intracerebroventricularly at doses of 1.75 and 3.5 pmol/animal.<sup>3</sup>

### References

1. Luo, S., Kulak, J.M., Cartier, G.E., *et al.*  $\alpha$ -Conotoxin AulB selectively blocks  $\alpha 3\beta 4$  nicotinic acetylcholine receptors and nicotine-evoked norepinephrine release. *J. Neurosci.* **18**(21), 8571-8579 (1998).
2. Napier, I.A., Klimis, H., Rycroft, B.K., *et al.* Intrathecal  $\alpha$ -conotoxins Vc1.1, AulB and MII acting on distinct nicotinic receptor subtypes reverse signs of neuropathic pain. *Neuropharmacology* **62**(7), 2202-2207 (2012).
3. Muldoon, P.P., Jackson, K.J., Perez, E., *et al.* The  $\alpha 3\beta 4^*$  nicotinic ACh receptor subtype mediates physical dependence to morphine: mouse and human studies. *Br. J. Pharmacol.* **171**(16), 3845-3857 (2014).

#### 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.

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#### 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