

PRODUCT INFORMATION



Cyclotraxin B

Item No. 42991

CAS Registry No.: 1203586-72-4
Formal Name: cyclic (1→11)-disulfide
L-cysteiny-L-asparaginyl-L-
prolyl-L-methionylglycyl-L-
tyrosyl-L-threonyl-L-lysyl-L- α -
glutamylglycyl-L-cysteine

MF: C₄₈H₇₃N₁₃O₁₇S₃

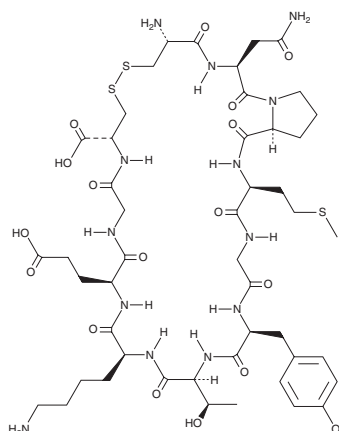
FW: 1,200.4

Purity: ≥98%

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

Cyclotraxin B is supplied as a solid. A stock solution may be made by dissolving the cyclotraxin B in the solvent of choice, which should be purged with an inert gas. Cyclotraxin B is sparingly soluble (1-10 mg/ml) in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cyclotraxin B can be prepared by directly dissolving the solid in aqueous buffers. Cyclotraxin B is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Cyclotraxin B is a cyclic peptide and negative allosteric modulator of tropomyosin-related kinase B (TrkB).¹ It inhibits BDNF-induced TrkB activity in a kinase receptor activation ELISA (KIRA-ELISA) using tetracycline-responsive CHO-K1 cells expressing recombinant human TrkB (TetOn-rhTrkB cells; IC₅₀ = 0.3 nM). It also inhibits BDNF-induced neurite outgrowth in nerve growth factor (NGF) non-responding mutant PC12 cells expressing TrkB (nnr5 PC12-TrkB cells; IC₅₀ = 12.2 pM). Cyclotraxin B (20 mg/kg per day) reduces mechanical, but not thermal, allodynia in the ipsilateral and contralateral paw in a rat model of thermal injury exacerbated by chronic intermittent stress.² Intravenous administration of cyclotraxin B fused to HIV-1 Tat protein, which increases brain delivery, increases the number of entries into and the ratio of time spent in the open arms of the elevated plus maze in mice, indicating anxiolytic-like activity.¹

References

1. Cazorla, M., Jouvenceau, A., Rose, C., *et al.* Cyclotraxin-B, the first highly potent and selective TrkB inhibitor, has anxiolytic properties in mice. *PLoS One* **5**(3), e9777 (2010).
2. Sosanya, N.M., Garza, T.H., Stacey, W., *et al.* Involvement of brain-derived neurotrophic factor (BDNF) in chronic intermittent stress-induced enhanced mechanical allodynia in a rat model of burn pain. *BMC Neurosci.* **20**(1), 17 (2019).

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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