

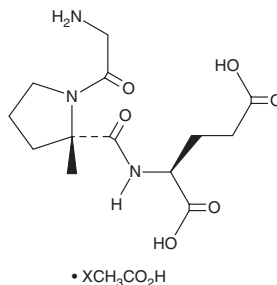
PRODUCT INFORMATION



Trofinetide (acetate)

Item No. 38579

Formal Name: glycyl-2-methyl-L-prolyl-L-glutamic acid, acetate
Synonym: NNZ-2566
MF: $C_{13}H_{21}N_3O_6 \cdot XC_2H_4O_2$
FW: 315.3
Purity: $\geq 95\%$
Supplied as: A solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



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

Laboratory Procedures

Trofinetide (acetate) is supplied as a solid. A stock solution may be made by dissolving the trofinetide (acetate) in the solvent of choice, which should be purged with an inert gas. Trofinetide (acetate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of trofinetide (acetate) in these solvents is approximately 1, 10, and 5 mg/ml, respectively.

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 trofinetide (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of trofinetide (acetate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Trofinetide is a derivative of the neuroprotective tripeptide Gly-Pro-Glu, an N-terminal sequence found in insulin-like growth factor-1 (IGF-1).¹ It decreases cell death induced by the protein phosphatase inhibitor okadaic acid (Item No. 10011490) in primary rat embryonic striatal neurons when used at a concentration of 10 nM. Trofinetide reduces brain expression of mRNA encoding IL-1 β , TNF- α , IL-6, and E-selectin in a rat model of neuroinflammation induced by a penetrating ballistic-like brain injury.² It reduces cortical and striatal infarct area in a rat model of brain injury induced by middle cerebral artery occlusion (MCAO) when administered at doses of 30 and 60 mg/kg.¹ Trofinetide (100 mg/kg per day) reduces the number of dendritic spines and reverses deficits in social recognition and contextual fear conditioning, as well as decreases testicular weight gain, in an *fmr1*^{-/-} knockout mouse model of fragile X syndrome.³ Formulations containing trofinetide have been used in the treatment of Rett syndrome.

References

1. Bickerdike, M.J., Thomas, G.B., Batchelor, D.C., *et al.* NNZ-2566: A Gly-Pro-Glu analogue with neuroprotective efficacy in a rat model of acute focal stroke. *J. Neurol. Sci.* **278**(1-2), 85-90 (2009).
2. Wei, H.H., Lu, X.-C.M., Shear, D.A., *et al.* NNZ-2566 treatment inhibits neuroinflammation and pro-inflammatory cytokine expression induced by experimental penetrating ballistic-like brain injury in rats. *J. Neuroinflammation* **6**, 19 (2009).
3. Deacon, R.M.J., Glass, L., Snape, M., *et al.* NNZ-2566, a novel analog of (1-3) IGF-1, as a potential therapeutic agent for fragile X syndrome. *Neuromolecular Med.* **17**(1), 71-82 (2015).

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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