

PRODUCT INFORMATION



TPT-260 (hydrochloride)

Item No. 16079

CAS Registry No.: 2076-91-7

Formal Name: carbamimidothioic acid, C,C'-[2,5-thiophenediylbis(methylene)] ester, dihydrochloride

Synonyms: NSC 55712, R55

MF: $C_8H_{12}N_4S_3 \cdot 2HCl$

FW: 333.3

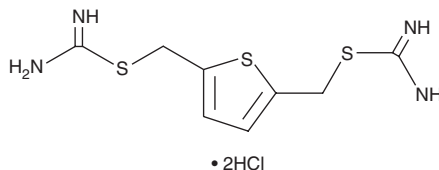
Purity: $\geq 95\%$

UV/Vis.: λ_{max} : 247, 326 nm

Supplied as: A crystalline solid

Storage: $-20^\circ C$

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

TPT-260 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the TPT-260 (hydrochloride) in the solvent of choice. TPT-260 (hydrochloride) is soluble in DMSO, which should be purged with an inert gas. The solubility of TPT-260 (hydrochloride) in this solvent is approximately 25 mg/ml.

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 TPT-260 (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of TPT-260 (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Retromers are multiprotein complexes responsible for trafficking cargo out of endosomes. This is an important function that, in the case of amyloid-precursor protein (APP), is neuroprotective by preventing APP from being cleaved into Alzheimer's disease-inducing fragments *via* the endosome. TPT-260 is a thiophene thiourea derivative that acts as a chaperone to stabilize the retromer complex against thermal denaturation ($K_d = \sim 5 \mu M$).¹ In cultured hippocampal neurons, TPT-260 dose-dependently increases the level of retromer proteins, redirects APP from the endosome, and reduces the formation of pathogenic APP.¹

Reference

1. Mecozzi, V.J., Berman, D.E., Simoes, S., *et al.* Pharmacological chaperones stabilize retromer to limit APP processing. *Nat. Chem. Biol.* (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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