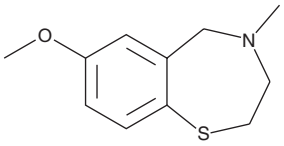
PRODUCT INFORMATION

S107

Item No. 13253

CAS Registry No.:	927871-76-9
Formal Name:	2,3,4,5-tetrahydro-7-methoxy-4-methyl-1,4-benzothiazepine
MF:	$C_{11}H_{15}NOS$
FW:	209.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 258, 292 nm
Supplied as:	A crystalline 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

S107 is supplied as a crystalline solid. A stock solution may be made by dissolving the S107 in the solvent of choice, which should be purged with an inert gas. S107 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of S107 in these solvents is approximately 0.5, 20, and 30 mg/ml, respectively.

S107 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, S107 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. S107 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

S107 is a stabilizer of the protein-protein interaction between ryanodine receptor 1 (RyR1) and FK-506 binding protein 1A (FKBP12).[1] It stabilizes sarcoplasmic reticulum RyR1 channels by decreasing the dissociation of FKBP12 in isolated mouse muscle fibers.[2] S107 (50 and 100 µM) also reduces neurite growth and length in isolated spinal cords from neonatal rats.[3] *Ex vivo*, S107 reduces exercise-induced calcium leakage in mouse muscle fibers.[1] S107 decreases muscle fatigue and increases treadmill running time in mice. It increases grip strength and reduces exercise-induced muscle damage in a dystrophin *DMD*$^{-/-}$ knockout mouse model of Duchenne muscular dystrophy.[2]

References

1. Bellinger, A.M., Reiken, S., Dura, M., *et al.* Remodeling of ryanodine receptor complex causes "leaky" channels: A molecular mechanism for decreased exercise capacity. *Proc. Natl. Acad. Sci. USA* **105(6)**, 2198-2202 (2008).
2. Bellinger, A.M., Reiken, S., Carlson, C., *et al.* Hypernitrosylated ryanodine receptor calcium release channels are leaky in dystrophic muscle. *Nat. Med.* **15(3)**, 325-330 (2009).
3. Keilhoff, G., Pinkernelle, J., and Fansa, H. The Ryanodine receptor stabilizer S107 fails to support motor neuronal neuritogenesis in vitro. *Tissue Cell* **73**, 101625 (2021).

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