

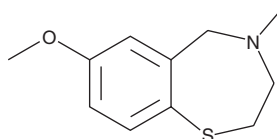
Product Information



S107

Catalog No. 13253

CAS Registry No.: 927871-76-9
Formal Name: 2,3,4,5-tetrahydro-7-methoxy-4-methyl-1,4-benzothiazepine
Synonym: Rycal
MF: C₁₁H₁₅NOS
FW: 209.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that S107 be stored as supplied at -20°C. It should be stable for at least two years.

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

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.

A homotetramer of the ryanodine receptor (RyR1) forms a calcium channel that mediates skeletal muscle contraction. Calstabin-1 (FKBP12) associates with RyR1 and functions as a channel-stabilizing protein. Calstabin-1 loss or depletion following S-nitrosylation of RyR1 causes calcium leak and reduced muscle function.^{1,2} S107 is a benzothiazepine derivative that binds the RyR1 channel and enhances the binding affinity of calstabin-1.² By preventing the depletion of calstabin-1 from the RyR1 complex, S107 slows muscle fatigue and reduces muscle damage in exercised mice.¹ In a murine model of Duchenne muscular dystrophy, S107 reduces biochemical and histological evidence of the muscle damage associated with muscular dystrophy, improves muscle function, and increases exercise performance.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. *Nature Med.* **15**(3), 325-330 (2009).

Related Product

FK-506 - Cat. No. 10007965

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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