

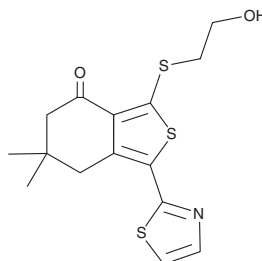
# PRODUCT INFORMATION



**TB 21007**

Item No. 27674

**CAS Registry No.:** 207306-50-1  
**Formal Name:** 6,7-dihydro-3-[(2-hydroxyethyl)thio]-6,6-dimethyl-1-(2-thiazolyl)-benzo[c]thiophen-4(5H)-one  
**MF:**  $C_{15}H_{17}NO_2S_3$   
**FW:** 339.5  
**Purity:**  $\geq 98\%$   
**Supplied as:** A solid  
**Storage:**  $-20^{\circ}\text{C}$   
**Stability:**  $\geq 4$  years



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

## Laboratory Procedures

TB 21007 is supplied as a solid. A stock solution may be made by dissolving the TB 21007 in the solvent of choice, which should be purged with an inert gas. TB 21007 is soluble in organic solvents such as ethanol and DMSO. The solubility of TB 21007 in these solvents is approximately 25 and 100 mM, respectively.

## Description

TB 21007 is an inverse agonist of  $\alpha_5\beta_3\gamma_2$  subunit-containing GABA<sub>A</sub> receptors ( $K_i = 1.6$  nM).<sup>1</sup> It selectively inhibits  $\alpha_5\beta_3\gamma_2$  subunit-containing GABA<sub>A</sub> receptors over  $\alpha_{1-4}$  and  $\alpha_6$  subunit-containing GABA<sub>A</sub> receptors that also contain  $\beta_3$  and  $\gamma_2$  subunits ( $K_i$ s = 20, 16, 20, 106, and 1,800 nM, respectively). TB 21007 reduces the latency to find the hidden platform in a matching-to-place variant of the Morris water maze, indicating enhanced spatial memory, in rats when administered at a dose of 0.3 mg/kg. It reduces paw tactile allodynia induced by reserpine (Item No. 16474) in a rat model of fibromyalgia-like pain when administered intrathecally at doses of 1.5, 15, and 150 nmol.<sup>2</sup>

## References

1. Chambers, M.S., Atack, J.R., Broughton, H.B., *et al.* Identification of a novel, selective GABA<sub>A</sub>  $\alpha_5$  receptor inverse agonist which enhances cognition. *J. Med. Chem.* **46**(11), 2227-2240 (2003).
2. De la Luz-Cuellar, Y.E., Rodríguez-Palma, E.J., Franco-Enzástiga, Ú., *et al.* Blockade of spinal  $\alpha_5$ -GABA<sub>A</sub> receptors differentially reduces reserpine-induced fibromyalgia-type pain in female rats. *Eur. J. Pharmacol.* **858**, 172443 (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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