SZABO SCANDIC

Part of Europa Biosite

# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


**SZABO-SCANDIC HandelsgmbH**

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

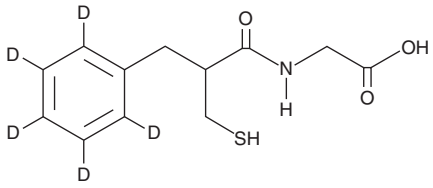
linkedin.com/company/szaboscandic

# PRODUCT INFORMATION

## Thiorphan-$d_5$

*Item No. 28692*

**CAS Registry No.:** 2183240-70-0
**Formal Name:** (3-mercapto-2-((phenyl-$d_5$)methyl)propanoyl)glycine
**MF:** $C_{12}H_{10}D_5NO_3S$
**FW:** 258.3
**Chemical Purity:** ≥95% (Thiorphan)
**Deuterium Incorporation:** ≥99% deuterated forms ($d_1$-$d_5$); ≤1% $d_0$
**Supplied as:** A solid
**Storage:** -20°C
**Stability:** ≥2 years




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

### Laboratory Procedures

Thiorphan-$d_5$ is intended for use as an internal standard for the quantification of thiorphan (Item No. 15600) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Thiorphan-$d_5$ is supplied as a solid. A stock solution may be made by dissolving the thiorphan-$d_5$ in the solvent of choice, which should be purged with an inert gas. Thiorphan-$d_5$ is soluble in organic solvents such as methanol and DMSO.

### Description

Thiorphan-$d_5$ is intended for use as an internal standard for the quantification of thiorphan (Item No. 15600) by GC- or LC-MS. Thiorphan is an inhibitor of neprilysin (NEP; $IC_{50}$ = 0.007 µM).[1] It selectivity inhibits NEP over NEP2 ($IC_{50}$ = 22 µM), as well as angiotensin-converting enzyme (ACE) and endothelin-converting enzyme 1 (ECE1; $K_i$s = >0.1 and >10 µM, respectively, in cell-free assays).[1,2] Thiorphan (10 µM) increases bradykinin-induced relaxation of isolated porcine coronary artery rings precontracted with potassium chloride under hypoxic, but not normoxic, conditions.[3] Thiorphan reduces increases in gastric acid output induced by pentagastrin (Item No. 28546) by 64% in rats when administered intracerebroventricularly at a dose of 50 µg, but not when administered intravenously at doses of 1.7 and 17 mg/kg.[4] Thiorphan (2 mg/ml, i.c.v.) increases cortical levels of insoluble amyloid-β (1-40) (Aβ40) and decreases time spent in the platform quadrant in the Morris water maze, indicating impaired reference memory, in rats.[5]

### References


1. Whyteside, A.R. and Turner, A.J. Human neprilysin-2 (NEP2) and NEP display distinct subcellular localisations and substrate preferences. *FEBS Lett.* **582(16),** 2382-2386 (2008).
2. Inguimbert, N., Coric, P., Poras, H., *et al.* Toward an optimal joint recognition of the S1' subsites of endothelin converting enzyme-1 (ECE-1), angiotensin converting enzyme (ACE), and neutral endopeptidase (NEP). *J. Med. Chem.* **45(7),** 1477-1486 (2002).
3. Krassói, I., Pataricza, J., and Papp, J.G. Thiorphan enhances bradykinin-induced vascular relaxation in hypoxic/hyperkalaemic porcine coronary artery. *J. Pharm. Pharmacol.* **55(3),** 339-345 (2003).
4. Chicau-Chover, M., Dubrasquet, M., Chariot, J., *et al.* Thiorphan and acetorphan inhibit gastric secretion by a central, non-opioid mechanism in the rat. *Eur. J. Pharmacol.* **154(3),** 247-254 (1998).
5. Mouri, A., Zou, L.B., Iwata, N., *et al.* Inhibition of neprilysin by thiorphan (i.c.v.) causes an accumulation of amyloid β and impairment of learning and memory. *Behav. Brain Res.* **168(1),** 83-91 (2006).





**CAYMAN CHEMICAL**
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
**PHONE:** [800] 364-9897
[734] 971-3335
**FAX:** [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM