

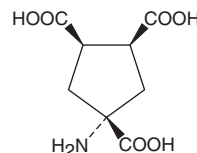
# PRODUCT INFORMATION



## ACPT-I

Item No. 78010

**CAS Registry No.:** 194918-76-8  
**Formal Name:** (4β)-amino-1α,2α,4-cyclopentanetricarboxylic acid  
**MF:** C<sub>8</sub>H<sub>11</sub>NO<sub>6</sub>  
**FW:** 217.2  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** Room temperature  
**Stability:** ≥2 years



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

### Laboratory Procedures

ACPT-I is supplied as a crystalline solid. A stock solution may be made by dissolving the ACPT-I in water. The solubility of ACPT-I in water is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

ACPT-I is an agonist of the group III metabotropic glutamate receptors (mGluRs) mGluR4a and mGluR8 (EC<sub>50</sub>s = 7.2 and 8.2 μM, respectively) that has no effect on mGluR1a or mGluR2.<sup>1</sup> It has diverse biological activity, including neuroprotective, anticonvulsant, and anxiolytic-like effects.<sup>2-5</sup> ACPT-I (1-200 μM) reduces cell death following oxygen-glucose deprivation in primary neuronal cultures and in a rat model of middle cerebral artery occlusion when used at a dose of 30 mg/kg.<sup>2</sup> It is neuroprotective against excitotoxicity induced by kainite *in vitro* and *in vivo* and reduces the incidence of clonic seizures in various seizure models in mice and rats (ED<sub>50</sub>s = 0.08-49.3 nM, i.c.v.).<sup>3,4</sup> ACPT-I also has anxiolytic-like effects in mice and rats, however, these effects can be blocked by WAY-100635 (Item No. 14599) and flumazenil (Item No. 14252), indicating the involvement of the serotonin (5-HT) receptor subtype 5-HT<sub>1A</sub> and GABA<sub>A</sub> receptor.<sup>5</sup>

### References

1. Acher, F.C., Tellier, F.J., Azerad, R., *et al.* Synthesis and pharmacological characterization of aminocyclopentanetricarboxylic acids: New tools to discriminate between metabotropic glutamate receptor subtypes. *J. Med. Chem.* **40(19)**, 3119-3129 (1997).
2. Domin, H., Przykaza, Ł., Jantas, D., *et al.* Neuroprotective potential of the group III mGlu receptor agonist ACPT-I in animal models of ischemic stroke: *In vitro* and *in vivo* studies. *Neuropharmacology* **102**, 276-294 (2016).
3. Domin, H., Gołenbiowska, K., Jantas, D., *et al.* Group III mGlu receptor agonist, ACPT-I, exerts potential neuroprotective effects *in vitro* and *in vivo*. *Neurotox. Res.* **26(1)**, 99-113 (2014).
4. Chapman, A.G., Talebi, A., Yip, P.K., *et al.* Anticonvulsant activity of a mGlu4α receptor selective agonist, (1S,3R,4S)-1-aminocyclopentane-1,2,4-tricarboxylic acid. *Eur. J. Pharmacol.* **424(2)**, 107-113 (2001).
5. Stachowicz, K., Kłodzińska, A., Palucha-Poniewiera, A., *et al.* The group III mGlu receptor agonist ACPT-I exerts anxiolytic-like but not antidepressant-like effects, mediated by the serotonergic and GABA-ergic systems. *Neuropharmacology* **57(3)**, 227-234 (2009).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/11/2018

#### 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