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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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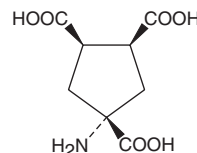
PRODUCT INFORMATION



ACPT-I

Item No. 78010

CAS Registry No.: 194918-76-8
Formal Name: (4 β)-amino-1 α ,2 α ,4-cyclopentanetricarboxylic acid
MF: C₈H₁₁NO₆
FW: 217.2
Purity: \geq 98%
Supplied as: A crystalline solid
Storage: Room temperature
Stability: \geq 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) mGluR4 α and mGluR8 (EC₅₀s = 7.2 and 8.2 μ M, respectively) that has no effect on mGluR1 α or mGluR2.¹ It has diverse biological activity, including neuroprotective, anticonvulsant, and anxiolytic-like effects.²⁻⁵ ACPT-I (1-200 μ M) 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.² 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 (ED₅₀s = 0.08-49.3 nM, i.c.v.).^{3,4} 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_{1A} and GABA_A receptor.⁵

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 mGlu4 α 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.

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