

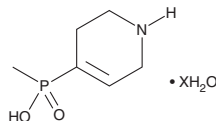
PRODUCT INFORMATION



TPMPA (hydrate)

Item No. 24302

CAS Registry No.: 182485-36-5
Formal Name: P-methyl-P-(1,2,3,6-tetrahydro-4-pyridinyl)-
phosphinic acid, hydrate
MF: $C_6H_{12}NO_2P$
FW: 161.1
Purity: $\geq 95\%$
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years



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

Laboratory Procedures

TPMPA (hydrate) is supplied as a crystalline solid. Aqueous solutions of TPMPA (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of TPMPA (hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

TPMPA is a GABA_A-p1 (p1 GABA_C) receptor antagonist that is 8-fold selective for GABA_A-p1 over GABA_A-p2 (p2 GABA_C) receptors expressed in *X. laevis* oocytes (K_b s = 2 and 16 μM , respectively).¹ In rat hippocampal slices, TPMPA blocks the inhibitory effect of the GABA_B agonist 3-APMPA on excitatory postsynaptic currents (EPSCs) with an EC_{50} value of 490 μM .² TPMPA (100 μM) increases light sensitivity and the maximal response of rat retinal ganglion cells without altering their dynamic range.³ In sleeping rats, TPMPA (50 μg , i.c.v.) increases waking from 45 to 62% compared to a vehicle control and decreases slow-wave and paradoxical sleep (REM) by 11 and 5.4%, respectively.⁴

References

1. Chebib, M., Mewett, K.N., and Johnston, G.A. GABA_C receptor antagonists differentiate between human p1 and p2 receptors expressed in *Xenopus* oocytes. *Eur. J. Pharmacol.* **357**(2-3), 227-234 (1998).
2. Ragozzino, D., Woodward, R.M., Murata, Y., et al. Design and in vitro pharmacology of a selective γ -aminobutyric acid_C receptor antagonist. *Mol. Pharmacol.* **50**(4), 1024-1030 (1996).
3. Jensen, R.J. Blocking GABA_C receptors increases light responsiveness of retinal ganglion cells in a rat model of retinitis pigmentosa. *Exp. Eye Res.* **105**, 21-26 (2012).
4. Arnaud, C., Gauthier, P., and Gottesmann, C. Study of a GABA_C receptor antagonist on sleep-waking behavior in rats. *Psychopharmacology (Berl)* **154**(4), 415-419 (2001).

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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