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Zuschläge

- Mindermengenzuschlag
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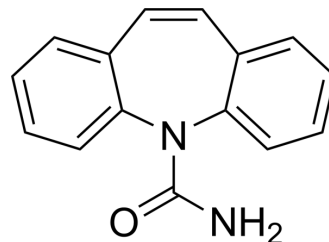
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Carbamazepine (Standard)

Cat. No.:	HY-B0246R
CAS No.:	298-46-4
Molecular Formula:	C ₁₅ H ₁₂ N ₂ O
Molecular Weight:	236.27
Target:	Mitophagy; Sodium Channel; Autophagy; Potassium Channel; Calcium Channel; HDAC
Pathway:	Autophagy; Membrane Transporter/Ion Channel; Neuronal Signaling; Cell Cycle/DNA Damage; Epigenetics
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Carbamazepine (Standard) is the analytical standard of Carbamazepine. This product is intended for research and analytical applications. Carbamazepine is an orally active pressure-sensitive sodium ion channel blocker with an IC₅₀ of 131 μM. Carbamazepine blocks voltage gated Na⁺, Ca²⁺, and K⁺ channels, and is also a HDAC inhibitor (IC₅₀: 2 μM). Carbamazepine is an anticonvulsant and can be used for research of epilepsy and neuropathic pain^{[1][2][3]}.

REFERENCES

- [1]. Willow, M. and W.A. Catterall, Inhibition of binding of [3H]batrachotoxinin A 20-alpha-benzoate to sodium channels by the anticonvulsant drugs diphenylhydantoin and carbamazepine. *Mol Pharmacol*, 1982. 22(3): p. 627-35.
- [2]. Okada, M., et al., Biphasic effects of carbamazepine on the dopaminergic system in rat striatum and hippocampus. *Epilepsy Res*, 1997. 28(2): p. 143-53.
- [3]. Beutler AS, et al. Carbamazepine is an inhibitor of histone deacetylases. *Life Sci*. 2005 May 13;76(26):3107-15.
- [4]. Turpin E, et al. Carbamazepine directly inhibits adipocyte differentiation through activation of the ERK 1/2 pathway. *Br J Pharmacol*. 2013 Jan;168(1):139-50.
- [5]. Wang CH, et al. Carbamazepine attenuates inducible nitric oxide synthase expression through Akt inhibition in activated microglial cells. *Pharm Biol*. 2014 Nov;52(11):1451-9.
- [6]. Kawaguchi T, et al. Carbamazepine promotes liver regeneration and survival in mice. *J Hepatol*. 2013 Dec;59(6):1239-45.
- [7]. Kara NZ, et al. Chronic oral carbamazepine treatment elicits mood-stabilising effects in mice. *Acta Neuropsychiatr*. 2014 Feb;26(1):29-34.

Caution: Product has not been fully validated for medical applications. For research use only.

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