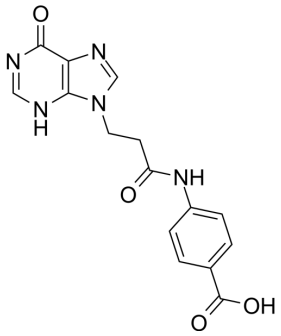
Leteprinim

Cat. No.:	HY-120251
CAS No.:	138117-50-7
Molecular Formula:	$C_{15}H_{13}N_5O_4$
Molecular Weight:	327.29
Target:	Reactive Oxygen Species
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Leteprinim (AIT-082 free acid), a purine analog, is a neuroprotective agent and cognitive enhancer. Leteprinim is a hypoxanthine derivative neurotrophic agent. Leteprinim can induce brain-derived neurotrophic factor (BDNF) mRNA production following spinal cord lesions, and nerve growth factor (NGF) mRNA production in basal forebrain. Leteprinim reduces glutamate toxicity in cultured hippocampal neurons. Leteprinim increases heme-oxygenase 1 and 2 mRNA levels that play role in cellular defense against reactive oxygen species[1][2][3][4].

In Vitro

Leteprinim (5–50 ng/mL, 24 and 48 h) enhances neurotransmitter release, increases secretion of synaptophysin in PC12 cells [2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Leteprinim (30 or 60 mg/kg, i.p., for 7 days) protect rats against Kainate (12 mg/kg) induced excitotoxicity of hippocampal neurons[1].

Leteprinim (60 mg/kg, i.p.) enhances working memory in young and aged mice[3].

Leteprinim (60 mg/kg; i.p.; single dosage) significantly reduces the number of apoptotic neurons in hypoxic-ischemic brain injury rat pups[4].

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Animal Model:	Wistar rat pups (hypoxic-ischemic brain injury induced by permanent unilateral carotid ligation)[4]
Dosage:	60 mg/kg
Administration:	IP; single dosage
Result:	The number of preserved neurons was significantly high in CA1, CA3 regions of hippocampus and dentate gyrus in the left hemispheres when compared with the saline-treated group. In the right hemisphere, neuronal densities of CA1, CA2, CA3 regions of hippocampus and dentate gyrus were significantly high in neotrofin treatment group when compared with the group given saline.

REFERENCES

[1]. Di Iorio P, et al. AIT-082 is neuroprotective against kainate-induced neuronal injury in rats. Exp Neurol. 2001 Jun;169(2):392-9.

[2]. Lahiri DK, et al. Effect of a memory-enhancing drug, AIT-082, on the level of synaptophysin. Ann N Y Acad Sci. 2000 Apr;903:387-93.

[3]. Glasky AJ, et al. Effect of AIT-082, a purine analog, on working memory in normal and aged mice. Pharmacol Biochem Behav. 1994 Feb;47(2):325-9.

[4]. Gencpınar P, et al. Effects of neotrofin on neonatal hypoxic ischemic brain injury. Neurosci Lett. 2011 Nov 14;505(2):205-10.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA