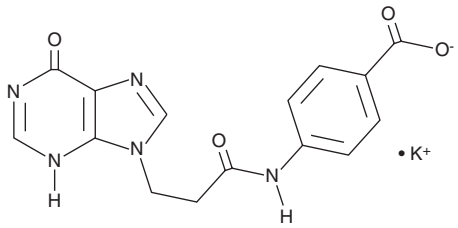
PRODUCT INFORMATION

Leteprinim (potassium salt)

Item No. 21748

CAS Registry No.: 192564-13-9
Formal Name: 4-[[3-(1,6-dihydro-6-oxo-9H-purin-9-yl)-1-oxopropyl]amino]-benzoic acid, monopotassium salt
Synonym: AIT 082
MF: $C_{15}H_{12}N_5O_4 \bullet K$
FW: 365.4
Purity: ≥98%
UV/Vis.: λ_{max}: 265 nm
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

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

Description

Leteprinim is a nootropic and neuroprotective agent and a derivative of hypoxanthine (Item No. 22254).[1-3] Leteprinim (10 and 100 µM) enhances nerve growth factor induced neurite growth in PC12 cells and increases the production of synaptophysin when used at concentrations ranging from 5 to 100 ng/ml.[1,3] It enhances working memory in a win-shift T-maze test in young mice and reduces time delay-induced working memory errors in old mice with mild or moderate, but not severe, age-induced memory deficits when administered at a dose of 30 mg/kg.[4] In a rat model of spinal crush injury, leteprinim (60 mg/kg per day for 21 days) reduces impairments in locomotor function and reduces increases in the amount of necrotic tissue and the number of reactive astrocytes in the spinal cord.[2] It reduces hypoxia-induced decreases in neuronal density in the hippocampal CA1, CA3, and dentate gyrus regions and decreases the number of caspase-3 and TUNEL-positive cells in the hippocampus and prefrontal and parietal cortices in neonatal rats when administered at a dose of 60 mg/kg.[5]

References

1. Middlemiss, P.J., Glasky, A.J., Rathbone, M.P., *et al.* AIT-082, a unique purine derivative, enhances nerve growth factor mediated neurite outgrowth from PC12 cells. *Neurosci. Lett.* **199(2)**, 131-134 (1995).
2. Jiang, S., Khan, M.I., Middlemiss, P.J., *et al.* AIT-082 and methylprednisolone singly, but not in combination, enhance functional and histological improvement after acute spinal cord injury in rats. *Int. J. Immunopathol. Pharmacol.* **17(3)**, 353-366 (2004).
3. Lahiri, D.K., Ge, Y.-W., and Farlow, M.R. Effect of a memory-enhancing drug, AIT-082, on the level of synaptophysin. *Ann. N.Y. Acad. Sci.* **903(1)**, 387-393 (2000).
4. Glasky, A.J., Melchior, C.L., Pirzadeh, B., *et al.* Effect of AIT-082, a purine analog, on working memory in normal and aged mice. *Pharmacol. Biochem. Behav.* **47(2)**, 325-329 (1994).
5. Gencpinar, P., Tüzün, F., Ozbal, S., *et al.* Effects of neotrofin on neonatal hypoxic ischemic brain injury. *Neurosci. Lett.* **505(2)**, 205-210 (2011).

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