# Product Data Sheet

Product Name: (±)-5'-Chloro-5'-deoxy-ENBA
Cat. No.: GC17413

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 103626-26-2 | | |
| Chemical Name | (2R,3R,4S,5S)-2-(6-((1R,2R,4R)-bicyclo[2.2.1]heptan-2-ylamino)-9H-purin-9-yl)-5-(chloromethyl)tetrahydrofuran-3,4-diol | | |
| SMILES | ClC[C@H]1O[C@H]([C@@H]([C@@H]1O)O)N2C(N=CN=C3N[C@H]4[C@H](CC5)C[C@@H]5C4)=C3N=C2 | | |
| Formula | $C_{17}H_{22}ClN_5O_3$ | M.Wt | 379.84 |
| Solubility | <37.98mg/ml in DMSO; <37.98mg/ml in ethanol | Storage | Store at -20°C |
| General tips | For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |
| Structure | (±)-5'-Chloro-5'-deoxy-ENBA | | |

## Background

(±)-5'-Chloro-5'-deoxy-ENBA is a selective and high-affinity adenosine A1 receptor agonist with Ki values of 0.51 [1].
Adenosine A1 receptor mediated neuroand cardioprotection (an antiarrhythmic effect), reduction of lipolysis in adipose tissue and reduction of neuropathic pain [1].
In mice injected with formalin at doses between 1 and 2mg/kg, (±)-5'-Chloro-5'-deoxy-ENBA inhibited the first and the second phases of the nocifensive response induced by formalin [1]. In a mouse model of neuropathic pain (the Spared Nerve Injury (SNI) of the sciatic nerve), (±)-5'-Chloro-5'-deoxy-ENBA (0.5 mg/kg) reduced thermal hyperalgesia and mechanical allodynia 7 and 3 days post-SNI without significantly changed the motor coordination and arterial blood pressure. Also, (±)-5'-Chloro-5'-deoxy-ENBA chronic treatment reduced activated and hypertrophic microglia [2]. In a Parkinson's disease (PD) mouse model, (±)-5'-Chloro-5'-deoxy-ENBA prevented the increase in sIPSC frequency and eIPSC amplitude produced by SKF. In mice with unilateral DA denervation,


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(±)-5'-Chloro-5'-deoxy-ENBA reduced the development of abnormal involuntary movements induced by L-DOPA [3].

*References:*

*[1]. Franchetti P, Cappellacci L, Vita P, Petrelli R, et al. N6-Cycloalkyl- and N6-bicycloalkyl-C5'(C2')-modified adenosine derivatives as high-affinity and selective agonists at the human A1 adenosine receptor with antinociceptive effects in mice. J Med Chem, 2009, 52(8): 2393-2406.*

*[2]. Luongo L, Petrelli R, Gatta L, et al. 5'-Chloro-5'-deoxy-(±)-ENBA, a potent and selective adenosine A(1) receptor agonist, alleviates neuropathic pain in mice through functional glial and microglial changes without affecting motor or cardiovascular functions. Molecules, 2012, 17(12): 13712-13726.*

*[3]. Mango D, Bonito-Oliva A, Ledonne A, et al. Adenosine A1 receptor stimulation reduces D1 receptor-mediated GABAergic transmission from striato-nigral terminals and attenuates l-DOPA-induced dyskinesia in dopamine-denervated mice. Exp Neurol, 2014, 261: 733-743.*


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