# Product Data Sheet

Product Name: ANR 94
Cat. No.: GC16159

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 634924-89-3 | | |
| Chemical Name | 8-ethoxy-9-ethyl-9H-purin-6-amine | | |
| SMILES | NC1=C2N=C(N(CC)C2=NC=N1)OCC | | |
| Formula | $C_9H_{13}N_5O$ | M.Wt | 207.23 |
| Solubility | <10.36mg/ml in DMSO; <20.72mg/ml in ethanol | Storage | Store at RT |
| 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 | ANR 94 | | |

## Background

8-ethoxy-9-ethyladenine (ANR 94) had been characterized in vitro as an adenosine receptor antagonist. Its chemical structure had been shown [1]. ANR 94 has shown high selectivity and affinity for the human adenosine A2A receptor subtype and high antiparkinsonian activity in unilaterally 6-hydroxydopamine (6-OHDA)-lesioned rats [2]. The Ki value of ANR 94 to the adenosine A2A receptor is 46 nM [1].

Adenosine is deeply involved in the control of motor behaviour and substantial evidences [1].

In Chinese hamster ovary (CHO) cells stably transfected with human recombinant adenosine receptors, ANR 94 was more selective than ANR 82 at the adenosine A2A receptor, with a Ki value of 46 nM [1]. Treatment with ANR 94 (0.5 mg/kg i.p. for 7 days) significantly prevented 1-methyl-4-phenyl-1, 2, 3, 6-tetrahydropyridine (MPTP)-induced degeneration of TH-positive cells ($p < 0.0005$) [2].


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In rats, at a dose of 5 mg/kg i.p., ANR 94 did not modify spontaneous motility, whereas at higher doses (10 or 15 mg/kg), it induced hypermotility. ANR 94 at a dose of 1 mg/kg had a low efficacy on catalepsy, whereas 5 mg/kg was fully effective. In deeply cataleptic rats, ANR 94 at a dose of 5 mg/kg i.p. during the 90-min testing period significantly reversed the catalepsy induced by 0.2 mg/kg of haloperidol. From 30-60 min, the effect of ANR 94 was maximal. The anticataleptic effect of ANR 94 had a long duration of over 150 min. In 6-OHDA-lesioned rats, ANR 94 significantly increased the number of contralateral rotations induced by l-DOPA (3 mg/kg); this effect lasted up to 120-130 min [2].

References:

[1]. Annalisa Pinna, Rosaria Volpini, Gloria Cristalli, et al. New adenosine A2A receptor antagonists: Actions on Parkinson’s disease models. European Journal of Pharmacology, 2005, 512:157-164.

[2]. Annalisa Pinna, Elisabetta Tronci, Nicoletta Schintu, et al. A new ethyladenine antagonist of adenosine A2A receptors: Behavioral and biochemical characterization as an antiparkinsonian drug. Neuropharmacology, 2010, 58: 613-623.


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