

**Product Name:** NECA

**Catalog No.:** 1691

**Batch No.:** 4

CAS Number: 35920-39-9

IUPAC Name: 1-(6-Amino-9*H*-purin-9-yl)-1-deoxy-*N*-ethyl-β-*D*-ribofuranuronamide

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>12</sub>H<sub>16</sub>N<sub>6</sub>O<sub>4</sub>·½H<sub>2</sub>O

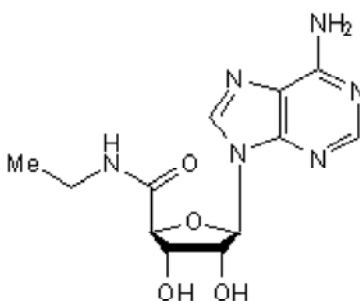
**Batch Molecular Weight:** 317.31

**Physical Appearance:** White solid

**Solubility:** DMSO to 40 mM

**Storage:** Store at +4°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.77 (Dichloromethane:Methanol:Ammonia soln. [80:20:1])

**HPLC:** Shows 99% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Optical Rotation:** [α]<sub>D</sub> = -17.5 (Concentration = 0.92, Solvent = 1M HCl (aq))

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	45.42	5.4	26.49
Found	45.45	5.59	26.67

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IUPAC Name: 1-(6-Amino-9H-purin-9-yl)-1-deoxy-N-ethyl-β-D-ribofuranuronamide

**Description:**

NECA is a high affinity adenosine receptor agonist ( $K_i$  values are 6.2, 14, and 20 nM for human  $A_3$ ,  $A_1$  and  $A_{2A}$  receptors respectively;  $EC_{50}$  = 2.4 μM for human  $A_{2B}$ ). Inhibits platelet aggregation and is centrally active in vivo.

**Physical and Chemical Properties:**

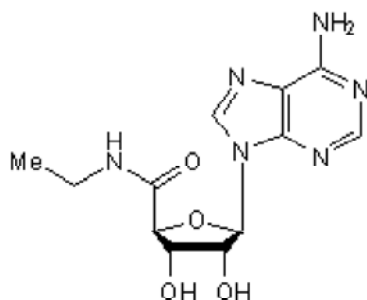
Batch Molecular Formula:  $C_{12}H_{16}N_6O_4 \cdot \frac{1}{2}H_2O$

Batch Molecular Weight: 317.31

Physical Appearance: White solid

**Minimum Purity:** ≥99%

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 40 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Knapp et al** (2001) Adenosine agonists CGS21680 and NECA inhibit the initiation of cocaine self-administration. *Pharmacol.Biochem.Behav.* **68** 797. PMID: 11526979.

**Klotz** (2000) Adenosine receptors and their ligands. *Naunyn Schmiedebergs Arch.Pharmacol.* **362** 382. PMID: 11111832.

**Cusack and Hourani** (1981) 5'-N-ethylcarboxamidoadenosine: a potent inhibitor of human platelet aggregation. *Br.J.Pharmacol.* **72** 443. PMID: 7260485.

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