

Certificate of Analysis

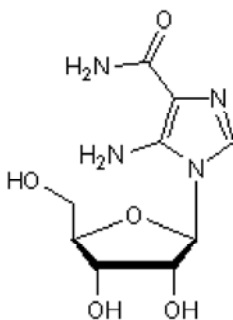
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Product Name: AICAR
CAS Number: 2627-69-2
IUPAC Name: *N*¹-(β-D-Ribofuranosyl)-5-aminoimidazole-4-carboxamide

Catalog No.: 2840 **Batch No.:** 8
EC Number: 220-097-5

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₉H₁₄N₄O₅.
Batch Molecular Weight: 258.23
Physical Appearance: Off White solid
Solubility: water to 75 mM
DMSO to 75 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100.0% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	41.86	5.46	21.7
Found	41.69	5.51	21.54

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel: +1 612 379 2956

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Description:

AICAR is a cell-permeable, allosteric activator of AMP-activated protein kinase (AMPK). Augments proliferation, differentiation and mineralization of osteoblastic MC3T3-E1 cells and attenuates psychosine-induced expression of proinflammatory cytokines and iNOS in astrocytes. Promotes osteogenic differentiation of hAMSCs and BM-MSCs in vitro.

Physical and Chemical Properties:

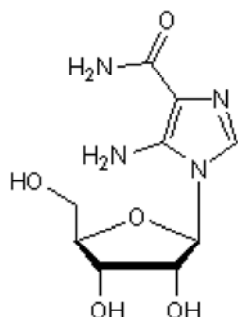
Batch Molecular Formula: C₉H₁₄N₄O₅.

Batch Molecular Weight: 258.23

Physical Appearance: Off White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

water to 75 mM

DMSO to 75 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:

Wu et al (2011) AICAR, a small chemical molecule, primes osteogenic differentiation of adult mesenchymal stem cells. *Int.J.Artif.Organs.* **34** 1128. PMID: 22198598.

Giri et al (2008) The role of AMPK in psychosine mediated effects on oligodendrocytes and astrocytes: Implication for Krabbe disease. *J.Neurochem.* **105** 1820. PMID: 18248608.

Kanazawa et al (2007) Adiponectin and AMP kinase activator stimulate proliferation, differentiation and mineralization of osteoblastic MC3T3-E1 cells. *BMC Cell Biol.* **8** 51. PMID: 18047638.

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