

# AICAR

**Catalog No: tcsc1951**



## Available Sizes

**Size:** 50mg

**Size:** 100mg

**Size:** 200mg

**Size:** 500mg

**Size:** 1g

**Size:** 2g



## Specifications

**CAS No:**

2627-69-2

**Formula:**

$C_9H_{14}N_4O_5$

**Pathway:**

Autophagy;Epigenetics;PI3K/Akt/mTOR;Autophagy

**Target:**

Autophagy;AMPK;AMPK;Mitophagy

**Purity / Grade:**

>98%

**Solubility:**

H2O : 65 mg/mL (251.71 mM; Need ultrasonic and warming); DMSO :  $\geq$  30 mg/mL (116.18 mM)

**Alternative Names:**

Acadesine;AICA Riboside

**Observed Molecular Weight:**

258.23

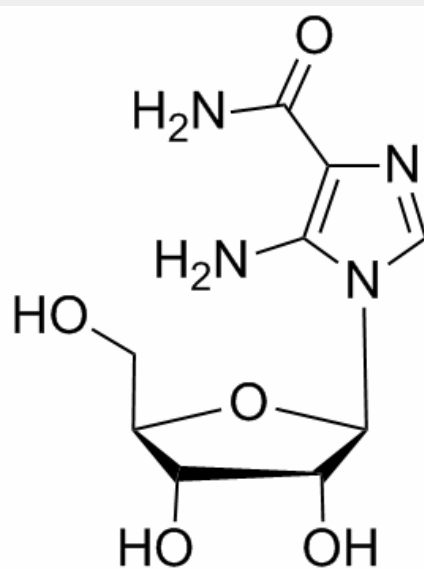
**Product Description**

AICAR is an activator of AMP-activated protein kinase (**AMPK**), down-regulates the insulin receptor expression in HepG2 cells.

IC<sub>50</sub> & Target: AMPK<sup>[1]</sup>

**In Vitro:** HepG2 cells are treated with various concentrations of AICAR (0.1-1.0 mM) for 12, 24, and 48 h, respectively. The expression level of IR- $\beta$  significantly decreases with 0.25, 0.5, and 1.0 mM of AICAR at 48 h to 50%, 53%, and 46% of the control, respectively<sup>[1]</sup>.

**In Vivo:** Fourteen-week-old male, lean (L; 31.3 g body wt) wild-type and ob/ob (O; 59.6 g body wt) mice are injected with the AMP-activated kinase (AMPK) activator AICAR (A) at 0.5 mg/g per day or saline control (C) for 14 days. At 24 h after the last injection (including a 12-h fast), all mice are killed, and the plantar flexor complex muscle (gastrocnemius, soleus, and plantaris) is excised for analysis. Muscle mass is lower in OC (159 $\pm$ 12 mg) than LC, LA, and OA (176 $\pm$ 10, 178 $\pm$ 9, and 166 $\pm$ 16 mg, respectively) mice, independent of a body weight change<sup>[2]</sup>. The kidney weight is significantly higher in the untreated group when compared with both the exercise and AICAR (0.5 mg/g body wt) groups. The heart weight is higher in the exercise group than in the other groups, whereas the liver weight is significantly higher in the AICAR-treated group when compared with the exercise and untreated groups<sup>[3]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!