

# AICAR (phosphate)

Catalog No: tcsc1952



## Available Sizes

**Size:** 50mg

**Size:** 100mg

**Size:** 200mg

**Size:** 500mg



## Specifications

**CAS No:**

681006-28-0

**Formula:**

$C_9H_{17}N_4O_9P$

**Pathway:**

Autophagy;Epigenetics;PI3K/Akt/mTOR;Autophagy

**Target:**

Autophagy;AMPK;AMPK;Mitophagy

**Purity / Grade:**

>98%

**Solubility:**

H2O :  $\geq 180$  mg/mL (505.29 mM); DMSO :  $\geq 75$  mg/mL (210.54 mM)

**Alternative Names:**

Acadesine phosphate;AICA Riboside phosphate

**Observed Molecular Weight:**

356.23

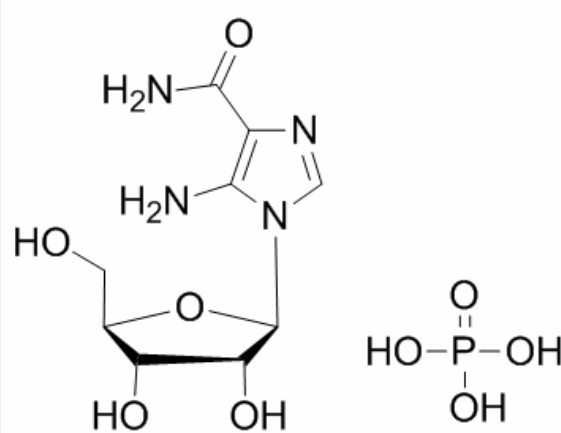
## Product Description

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

IC50 & 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\* $\text{g body wt}^{-1}\cdot\text{day}^{-1}$  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!