Molecular Formula:

$C_9H_{14}N_4O_5$

Molecular Weight:

258.24 g/mol

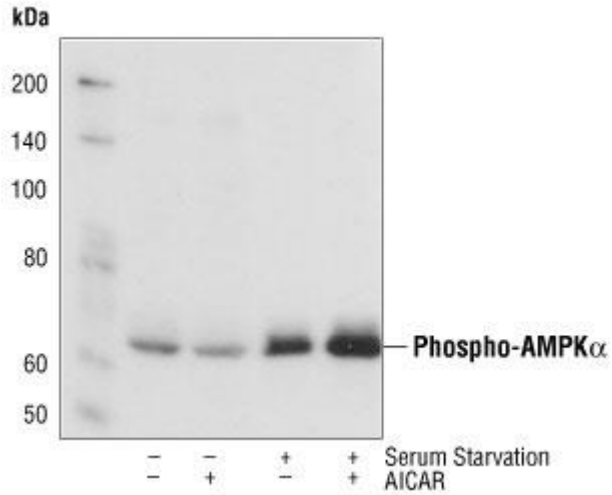
Purity:

98%

Directions for Use

This product is for in vitro research use only and is not intended for use in humans or animals. This product is not intended for use as therapeutic or in diagnostic procedures. AICAR is supplied at 250 mM in water. Thaw completely before use. For a 0.5 mM working concentration, dilute 1:500. For a 2 mM working concentration, dilute 1:125. Treat cells with desired concentration for 5-60 minutes.

Western Blotting



Western Blot analysis of extracts from C2C12 cells, cultured in the presence or absence of serum (O/N) and treated with or without AICAR (0.5 mM, 30 min), using Phospho-AMPKalpha (Thr172) (40H9) Rabbit mAb #2535.

Description

AICAR is supplied at 250 mM concentration. For a 0.5 mM working concentration, dilute 1:500. For a 2 mM working concentration, dilute 1:125. Treat cells with desired concentration for 5-60 minutes. Please note: Appearance of AICAR solution should be a clear to yellow/brown solution without precipitation. If precipitation is observed, warm tightly capped vial at 37C until AICAR goes into solution. Agitation of warmed solution by vortex may be necessary.

Background

AICAR (5-Aminoimidazole-4-carboxyamide ribonucleoside) is an adenosine analog taken up by muscle and phosphorylated to form 5-aminoimidazole-4-carboxamide-1--D-ribofuranosyl-5'-monophosphate (ZMP), which stimulates AMPK activity and glucose transport in skeletal muscle (1). AICAR has been used in studies measuring glucose uptake, diabetes and insulin resistance, and energy regulation during exercise. AICAR acts by entering nucleoside pools and significantly increasing levels of adenosine during periods of ATP breakdown (2).

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2. Mullane, K. et al. (1993) *Trends Cardiovasc. Med.* 3, 227-234.
3. Jakobsen, S. N. et al. (2001) *J. Biol. Chem.* 276, 46912-46916.
4. Jessen, N. et al. (2003) *J. Appl. Physiol.* 94, 1373-1379.
5. Giri, S. et al. (2004) *J. Neurosci.* 24, 479-487.