


#9944 Store at -20C	AICAR		Cell Signaling TECHNOLOGY®
	25 mg	Orders:	877-616-CELL (2355) orders@cellsignal.com
		Support:	877-678-TECH (8324)
		Web:	info@cellsignal.com cellsignal.com
3 Trask Lane Danvers Massachusetts 01923 USA			

For Research Use Only. Not for Use in Diagnostic Procedures.

Background

AICAR (5-Aminoimidazole-4-carboxamide 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).

Molecular Formula

C₉H₁₄N₄O₅

Molecular Weight

258.23 g/mol

Purity

>99%

CAS

2627-69-2

Solubility

Soluble in DMSO at 40mg/ml and H₂O at 20mg/ml.

Storage

Store solution at -20°C. Protect from light. Use within 12 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

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 as a lyophilized powder. For a 75mM stock, reconstitute the 25 mg in 1.29 ml sterile diH₂O. Heating to 37°C and/or additional vortexing may be required. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 0.5-2mM for 30 minutes-24 hours.

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 37°C until AICAR goes into solution. Agitation of warmed solution by vortex may be necessary.

Background References

1. Sakoda, H. et al. (2002) *Am. J. Physiol. Endocrinol. Metab.* 282, E1239-E1244.
2. Mullane, K. et al. (1993) *Trends Cardiovasc Med* 3, 227-34.
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.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.
All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the

end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.