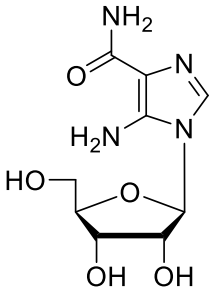
Technical Information about AICAR

Update: September 14, 2018 HJ



Abbreviation: **AICAR**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_9H_{14}N_4O_5$	[2627-69-2]	258.2	λ_{max} 265 nm / ε 12500 / pH 7	A 103

Name: 5- Aminoimidazole- 4- carboxamide- 1- ß- D- ribofuranoside / AICA- riboside / Acadesine / Z- riboside

Description: AICAR is a nucleoside analogue in which the nucleobase is replaced by a modified imidazole ring.

Properties: AICAR is a cell-permeable activator of AMP-activated protein kinase (AMPK).

Specification: Crystallized or lyophilized solid. Please keep in mind that equal concentrations of the compound may look different in volume due to sensitivity to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micromolar quantities are determined by weight.

Purity: Typical analysis is better than 98% (HPLC / UV / 265 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: AICAR has sufficient solubility in water. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

Stability and Storage: AICAR has sufficient stability for short term exposure to ambient temperature and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

Toxicity and Safety: Please keep in mind that the *in vivo* properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product.
Our products are designed, developed and sold for research purposes only. They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.
Not for drug, household or related uses!

Selected References for AICAR:

Narkar, V.A.; Downes, M.; Yu, R.T.; Embler, E.; Wang, Y.-X.; Banayo, E.; Mihaylova, M.M.; Nelson, M.C.; Zou, Y.; juguilon, H.; Kang, H.; Shaw, R.J.; Evans, R.M., *Cell*, **134**, 405 - 415 (2008): "AMPK and PPARδ Agonists Are Exercise Mimetics"

Faour, W.H.; Gomi, K.; Kennedy, C.R.J., *Cell. Signal.*, **20**, 2156 - 2164 (2008): "PGE2 Induces COX-2 Expression in Podocytes via the EP4 Receptor through a PKA-independent Mechanism"

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Fediuc, S.; Gaidhu, M.P.; Ceddia, R.B., *Endocrinology*, **147**, 5170 - 5177 (2006): "Inhibition of Insulin-stimulated Glycogen Synthesis by 5-Aminoimidasole-4-carboxamide-1-beta-d-ribofuranoside-induced Adenosine 5'-monophosphate-activated Protein Kinase Activation: Interactions with Akt, Glycogen Synthase Kinase 3-3alpha/beta, and Glycogen Synthase in Isolated Rat Soleus Muscle"

Prasad, R.; Giri, S.; Nath, N.; Singh, I.; Singh, A.K., *J. Neurosci. Res*., **84**, 614 - 625 (2006): "5-Aminoimidazole-4-Carboxamide-1-Beta-4-Ribofuranoside Attenuates Experimental Autoimmune Encephalomyelitis via Modulation of Endothelial-Monocyte Interaction"

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