

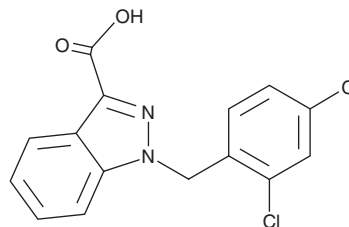
PRODUCT INFORMATION



Lonidamine

Item No. 14640

CAS Registry No.: 50264-69-2
Formal Name: 1-[(2,4-dichlorophenyl)methyl]-1H-indazole-3-carboxylic acid
Synonyms: AF 1890, DICA, Diclonazolic Acid
MF: C₁₅H₁₀Cl₂N₂O₂
FW: 321.2
Purity: ≥98%
UV/Vis.: λ_{max}: 298 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Lonidamine is supplied as a crystalline solid. A stock solution may be made by dissolving the lonidamine in the solvent of choice, which should be purged with an inert gas. Lonidamine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of lonidamine in these solvents is approximately 1.7, 20, and 25 mg/ml, respectively.

Lonidamine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, lonidamine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Lonidamine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Lonidamine, originally identified as a potent antispermatogenic agent, inhibits glycolysis through the inactivation of mitochondria-bound hexokinase. It can decrease oxygen consumption as well as aerobic and anaerobic glycolysis in Ehrlich ascites tumor cells with IC₅₀ values of 90 and 45 μM, respectively.¹ A role for lonidamine as a therapeutic for mitochondrial dysfunction has been explored in various disorders, including cancer, neurodegenerative and neuromuscular diseases, obesity, and diabetes.²⁻⁴

References

1. Floridi, A., Paggi, M.G., D'Arti, S., et al. Effect of lonidamine on the energy metabolism of Ehrlich ascites tumor cells. *Cancer Res.* **41(11)**, 4661-4666 (1981).
2. Brawer, M.K. Lonidamine: Basic science and rationale for treatment of prostatic proliferative disorders. *Rev. Urol.* **7 (Suppl.7)**, 21-6 (2005).
3. Marrache, S. and Dhar, S. Engineering of blended nanoparticle platform for delivery of mitochondria-acting therapeutics. *Proc. Natl. Acad. Sci. USA* **109(40)**, 16288-16293 (2012).
4. Miccoli, L., Poirson-Bichat, F., Sureau, F., et al. Potentiation of lonidamine and diazepam, two agents acting on mitochondria, in human glioblastoma treatment. *J. Natl. Cancer Inst.* **90(18)**, 1400-1406 (1998).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/14/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM