Acriflavine

Cat. No.: HY-100575

CAS No.: 8048-52-0

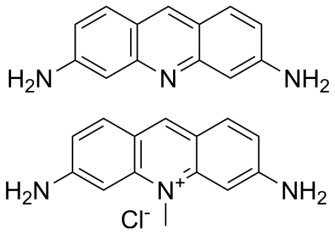
Molecular Formula: $C_{14}H_{14}ClN_3$

Molecular Weight: 259.73

Target: HIF/HIF Prolyl-Hydroxylase

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 25 mg/mL (96.25 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.8502 mL	19.2508 mL	38.5015 mL
	5 mM	0.7700 mL	3.8502 mL	7.7003 mL
	10 mM	0.3850 mL	1.9251 mL	3.8502 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
Solubility: 2 mg/mL (7.70 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

BIOLOGICAL ACTIVITY

Description

Acriflavine is a fluorescent dye for labeling high molecular weight RNA. It is also a topical antiseptic.

In Vitro

Acriflavine is identified as a potent inhibitor of the MCT4 that can inhibit the binding between Basigin and MCT4. Acriflavine significantly inhibits growth and self-renewal potential of several glioblastoma neurosphere lines[1].
The HIF-1 inhibitor acriflavine decreases survival and growth of CML cells. It targets stem cell potential of CML cells[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Acriflavine treatment inhibits intratumoral expression of VEGF and tumor vascularization[1].
In a murine CML model, acriflavine decreases leukemia development and reduces LSC maintenance[2].
Acriflavine retards tumor growth in a murine model of breast cancer. The combination of sunitinib with acriflavine significantly decreases vascular endothelial growth factor and TGF-β expression and reduces tumor vasculature followed by increased intratumor necrosis and apoptosis[3].

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PROTOCOL

Animal Administration [2]

Mice: CML mice are treated daily with acriflavine (8 mg/kg) or PBS via intraperitoneal injection, for 10 days starting from day 7 after bone marrow transplantation[2].

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CUSTOMER VALIDATION

- EBioMedicine. 2019 Nov;49:291-304.
- EBioMedicine. 2018 May;31:202-216.
- J Clin Endocrinol Metab. 2022 Oct 3;dgac548.
- J Photochem Photobiol B. 2022 Sep;234:112537.

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REFERENCES

[1]. Voss DM, et al. Disruption of the monocarboxylate transporter-4-basigin interaction inhibits the hypoxic response, proliferation, and tumor progression. Sci Rep. 2017 Jun 27;7(1):4292.

[2]. Cheloni G, et al. Targeting chronic myeloid leukemia stem cells with the hypoxia-inducible factor inhibitor acriflavine. Blood. 2017 Jun 2. pii: blood-2016-10-745588.

[3]. Yin T, et al. HIF-1 Dimerization Inhibitor Acriflavine Enhances Antitumor Activity of Sunitinib in Breast Cancer Model. Oncol Res. 2014;22(3):139-45.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA