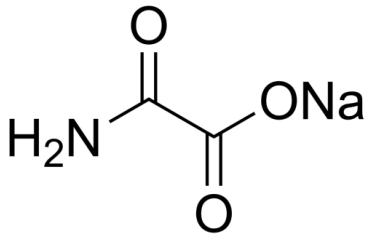
Data Sheet

Product Name:	Oxamic acid (sodium)
Cat. No.:	CS-0109107
CAS No.:	565-73-1
Molecular Formula:	$C_2H_2NNaO_3$
Molecular Weight:	111.03
Target:	Apoptosis; Lactate Dehydrogenase
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Solubility:	DMSO : 3.23 mg/mL (29.09 mM; ultrasonic and warming and adjust pH to 5 with HCl and heat to 60°C); H2O : 25 mg/mL (225.16 mM; ultrasonic and warming and heat to 60°C)



BIOLOGICAL ACTIVITY:

Oxamic acid (oxamate) sodium salt is a **lactate dehydrogenase-A** (**LDH-A**) inhibitor. Oxamic acid sodium salt shows anti-tumor activity, and anti-proliferative activity against cancer cells, and can induce **apoptosis**[1][2][3]. **In Vitro:** Oxamic acid suppresses the proliferation, migration and invasion of both A2780 and SKOV3 cells[1].
Oxamic acid (10 μM; 24-72 h) inhibits cell proliferation in a dose- and time-dependent manner in both NPC cancer cells[2].
Oxamic acid (0-100 mM; 24 h) induces cell cycle arrest in the G2/M phase in CNE-1 and CNE-2 cells[2].
Oxamic acid (0-100 mM; 48 h) induces apoptosis via caspase-3 activation and the mitochondrial pathway in NPC cells[2].
Oxamic acid (0-100 mM; 24 h) increases ROS levels in NPC cells[2]. **In Vivo:** Oxamic acid (intraperitoneal injection; 750 mg/kg; once daily; 3 w) treatment improves the efficacy of tumor inhibition in vivo when combined with irradiation treatment[2].

References:

[1]. Xiang J, et al. LDH-A inhibitors as remedies to enhance the anticancer effects of PARP inhibitors in ovarian cancer cells. Aging (Albany NY). 2021 Dec 16;13(24):25920-25930.

[2]. Zhai X, et al. Inhibition of LDH-A by oxamate induces G2/M arrest, apoptosis and increases radiosensitivity in nasopharyngeal carcinoma cells. Oncol Rep. 2013 Dec;30(6):2983-91.

[3]. Muramatsu H, et al. Targeting lactate dehydrogenase-A promotes docetaxel-induced cytotoxicity predominantly in castration-resistant prostate cancer cells. Oncol Rep. 2019 Jul;42(1):224-230.

CAIndexNames:

Acetic acid, 2-amino-2-oxo-, sodium salt (1:1)

SMILES:

[Na].O=C(O)C(=O)N

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

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