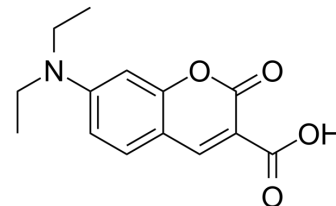


7ACC1

Cat. No.:	HY-D0067
CAS No.:	50995-74-9
Molecular Formula:	C ₁₄ H ₁₅ NO ₄
Molecular Weight:	261.27
Target:	Monocarboxylate Transporter
Pathway:	Membrane Transporter/Ion Channel
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 33.33 mg/mL (127.57 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	3.8275 mL	19.1373 mL	38.2746 mL
		5 mM	0.7655 mL	3.8275 mL	7.6549 mL
		10 mM	0.3827 mL	1.9137 mL	3.8275 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 2.5 mg/mL (9.57 mM); Suspended solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	<p>7ACC1(DEAC; Coumarin D 1421; D 1421) selectively interfere with lactate fluxes in the lactate-rich tumor microenvironment; inhibits lactate influx but not efflux in tumor cells expressing MCT1 and MCT4 transporters. IC50 value: 0.86 μM (Lactate uptake inhibition) [1] Target: MCT inhibitor; lactate transport inhibitor. Contrary to the reference MCT1 inhibitor AR-C155858, 7ACC unexpectedly inhibited lactate influx but not efflux in tumor cells expressing MCT1 and MCT4 transporters. 7ACC delayed the growth of cervix SiHa tumors, colorectal HCT116 tumors, and orthotopic MCF-7 breast tumors. MCT target engagement was confirmed by the lack of activity of 7ACC on bladder UM-UC-3 carcinoma that does not express functional MCT. 7ACC also inhibited SiHa tumor relapse after treatment with cisplatin. Finally, we found that contrary to AR-C155858, 7ACC did not prevent the cell entry of the substrate-mimetic drug 3-bromopyruvate (3BP) through MCT1, and contributed to the inhibition of tumor relapse after 3BP treatment.</p>
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CUSTOMER VALIDATION

- Cell Metab. 2021 Sep 8;S1550-4131(21)00375-2.
- Microbiome. 2022 Dec 15;10(1):226.
- J Biol Chem. 2021 Dec 29;101554.
- Cancer Cell Int. 2019 Jun 28;19:170.
- Cancer Med. 2018 Sep;7(9):4690-4700.

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REFERENCES

[1]. Draoui N, et al. Antitumor activity of 7-aminocarboxycoumarin derivatives, a new class of potent inhibitors of lactate influx but not efflux. Mol Cancer Ther. 2014 Jun;13(6):1410-8.

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

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