Monocarboxylate Transporter

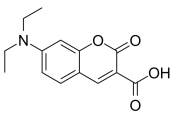
Monocarboxylate transporters (MCTs) constitute a family of proton-linked plasma membrane transporters that carry molecules having one carboxylate group (monocarboxylates), such aslactate and pyruvate, across biological membranes. Highly malignant tumors rely heavily on aerobic glycolysis (metabolism of glucose to lactic acid even under ample tissue oxygen; Warburg Effect) and thus need to efflux lactic acid via MCTs to the tumor micro-environment to maintain a robust glycolytic flux and to prevent the tumor from being "pickled to death". The MCTs have been successfully targeted in pre-clinical studies using RNAi and a small-molecule inhibitor alpha-cyano-4-hydroxycinnamic acid (ACCA; CHC) to show that inhibiting lactic acid efflux is a very effective therapeutic strategy against highly glycolytic malignant tumors.

Monocarboxylate Transporter Inhibitors

7ACC1
(DEAC; Coumarin D 1421; D 1421)

Cat. No.: HY-D0067

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.

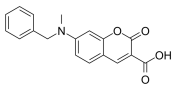


Purity: 99.72%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg, 200 mg

7ACC2

Cat. No.: HY-D0713

7ACC2 is a potent **monocarboxylate transporter (MCT)** inhibitor with an IC_{50} of 11 nM for inhibition of [^{14}C]-lactate influx. 7ACC2 is also a potent inhibitor of **mitochondrial pyruvate transport**. 7ACC2 is an anticancer agent through inhibition of lactate flux.

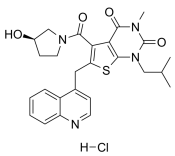


Purity: 99.80%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

AR-C141990 hydrochloride

Cat. No.: HY-119996A

AR-C141990 hydrochloride is a potent **lactate transporters (monocarboxylate transporters; MCTs)** inhibitor with pK_i values of 7.6, 6.6 for MCT-1 and MCT-2, respectively. AR-C141990 hydrochloride has immunosuppressive properties and inhibits graft versus host response.

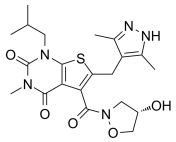


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg

AR-C155858

Cat. No.: HY-13248

AR-C155858 is a selective monocarboxylate transporter **MCT1** and **MCT2** inhibitor with K_is of 2.3 nM and 10 nM, respectively.

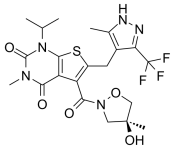


Purity: 95.56%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg

AZD3965

Cat. No.: HY-12750

AZD3965 is a selective **MCT1** inhibitor with a K_i of 1.6 nM, showing 6-fold selectivity over MCT2.

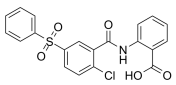


Purity: 99.95%
Clinical Data: Phase 1
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

BAY-8002

Cat. No.: HY-122312

BAY-8002 is a potent, selective, orally active inhibitor of **monocarboxylate transporter 1 (MCT1)**, with an IC_{50} of 85 nM in the MCT1-expressing DLD-1 cells, displays excellent selectivity against MCT4. Anti-tumor activity.

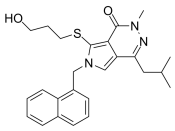


Purity: 98.10%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

MCT1-IN-2

Cat. No.: HY-18974

MCT1-IN-2 is a potent **monocarboxylate transporter 1 (MCT1)** inhibitor. MCT1-IN-2 has anti-cancer activity.

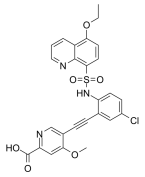


Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

MCT4-IN-1

Cat. No.: HY-132301

MCT4-IN-1 is an orally active and selective monocarboxylate transporter 4 (MCT4/SLC16A3) inhibitor with an IC_{50} of 77 nM and a K_i of 11 nM. MCT4-IN-1 targets to the cytosolic domain of MCT4.

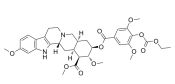


Purity: 98.11%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Syrosingopine
(Su 3118)

Cat. No.: HY-N4115

Syrosingopine (Su 3118) is a potent and dual inhibitor of **MCT1** and **MCT4** with 60-fold higher potency on MCT4. Syrosingopine (Su 3118) prevents lactate and H+ efflux. Syrosingopine (Su 3118) is an anti-hypertensive drug with oral activity.

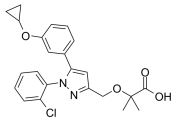


Purity: 99.23%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

VB124

Cat. No.: HY-139665

VB124 is an orally active, potent, and selective **MCT4** inhibitor. VB124 can specifically inhibit lactate efflux with IC_{50}s of 8.6 nM and 19 nM for lactate import and export in MDA-MB-231 cells, respectively. VB124 is highly selective for MCT4 over MCT1.

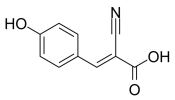


Purity: 99.86%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

α-Cyano-4-hydroxycinnamic acid

(α-Cyano-4-hydroxycinnamate) **Cat. No.:** HY-107641

α-Cyano-4-hydroxycinnamic acid (α-Cyano-4-hydroxycinnamate) is a potent and non-competitive inhibitor of **monocarboxylate transporters (MCTs)**. α-Cyano-4-hydroxycinnamic acid inhibits mitochondrial pyruvate transporter with a K_i of 6.3 μM.



Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 50 mg, 250 mg