GLUT

Glucose transporter

GLUTs (Glucose transporters) are proteins comprising 12 membrane-spanning regions. GLUTs transport glucose across the plasma membrane by means of a facilitated diffusion mechanism.

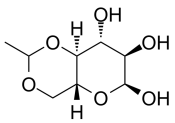
GLUT1 (SLC2A1), a uniporter protein, facilitates the transport of glucose across the plasma membranes of mammalian cells. GLUT2 (SLC2A2) is a transmembrane carrier protein that enables protein facilitated glucose movement across cell membranes. GLUT3 (SLC2A3), mainly present in the brain, has high affinity for glucose. GLUT3 facilitates the transport of glucose across the plasma membranes of mammalian cells. GLUT4 (SLC2A4) is found in the heart, skeletal muscle, adipose tissue, and brain. GLUT4 is an insulin-responsive glucose transporter.

GLUT Inhibitors & Activators

4,6-O-Ethylidene-α-D-glucose
(Ethylidene-glucose)

Cat. No.: HY-N7433

4,6-O-ethylidene-α-D-glucose (Ethylidene-glucose), a glucose derivative, is a competitive exofacial binding-site inhibitor on **glucose transporter 1 (GLUT1)** with a K_i of 12 mM for wild-type 2-deoxy-D-glucose transport.

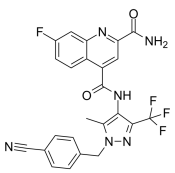


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 50 mg, 100 mg

BAY-876

Cat. No.: HY-100017

BAY-876 is an orally active and selective **glucose transporter 1 (GLUT1)** inhibitor with an IC_{50} of 2 nM. BAY-876 is >130-fold more selective for GLUT1 than GLUT2, GLUT3, and GLUT4. BAY-876 is also a potent blocker of glycolytic metabolism and ovarian cancer growth.

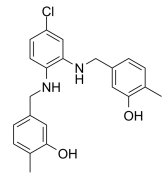


Purity: 98.46%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

DRB18

Cat. No.: HY-145963

DRB18 is a potent pan-class **GLUT** inhibitor. DRB18 alters energy-related metabolism in A549 cells by changing the abundance of metabolites in glucose-related pathways. DRB18 can eventually lead to G1/S phase arrest and increase oxidative stress and necrotic cell death.

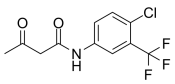


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Fasentin

Cat. No.: HY-101849

Fasentin, a potent glucose uptake inhibitor, inhibits **GLUT-1/GLUT-4** transporters. Fasentin preferentially inhibits GLUT4 (IC_{50}=68 μM) over GLUT1. Fasentin is a death receptor stimuli (FAS) sensitizer and sensitizes cells to FAS-induced cell death.

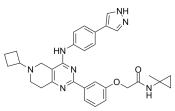


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

GLUT inhibitor-1

Cat. No.: HY-139605

GLUT inhibitor-1 is a potent and orally active inhibitor of glucose transporters, targeting both **GLUT1** and **GLUT3**, with IC_{50}s of 242 nM and 179 nM, respectively. GLUT inhibitor-1 has the potential for the reaesrch of cancers and autoimmune diseases.

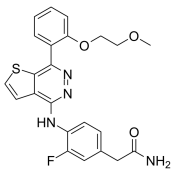


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

GLUT4 activator 1

Cat. No.: HY-128574

GLUT4 activator 1 (Compound 26b) is a potent glucose transporter type 4 (**GLUT4**) translocation activator with an EC_{50} of 0.14 μM.

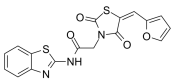


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

GLUT4-IN-2

Cat. No.: HY-146980

GLUT4-IN-2 is a potent and selective **GLUT4** inhibitor with IC_{50}s of 11.4 μM and 6.8 μM for GLUT1 and GLUT4, respectively. GLUT4-IN-2 induces cell **apoptosis** and cell cycle arrest at G0/G1phase. GLUT4-IN-2 shows potent antitumor activity.

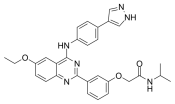


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

KL-11743

Cat. No.: HY-145597

KL-11743 is a potent, orally active, and glucose-competitive inhibitor of the **class I glucose transporters**, with IC_{50}s of 115, 137, 90, and 68 nM for **GLUT1**, **GLUT2**, **GLUT3**, and **GLUT4**, respectively. KL-11743 specifically blocks glucose metabolism.

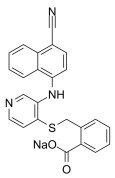


Purity: 98.80%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

KPH2f

Cat. No.: HY-144305

KPH2f is a safe, orally active, and effective dual **URAT1/GLUT9** inhibitor with IC_{50}s of 0.24 μM and 9.37 μM for URAT1 and GLUT9, respectively. KPH2f shows little effects on OAT1 and ABCG2 (IC_{50}=32.14 and 26.74 μM).

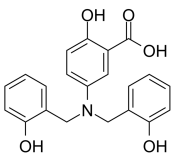


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Lavendustin B

Cat. No.: HY-108935

Lavendustin B is an inhibitor of **HIV-1 integrase interaction with LEDGF/p75** with an IC_{50} of 94.07 μM. Lavendustin B is an ATP-competitive **GLUT1** inhibitor with a K_i of 15 μM. Lavendustin B is also a weak inhibitor of **tyrosine kinases**.



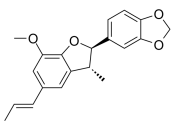
Purity: 98.04%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Licarin B

((-)-Licarin B)

Cat. No.: HY-N0479

Licarin B, a nitric oxide production inhibitor extracted from the component of the seeds of Myristica fragrans, improves insulin sensitivity via **PPARγ** and activation of GLUT4 in the IRS-1/PI3K/AKT pathway.



Purity: 99.71%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

MOTS-c(human) acetate

Cat. No.: HY-P2048A

MOTS-c(human) acetate is a mitochondrial-derived peptide. MOTS-c(human) acetate induces the accumulation of AMP analog **AICAR**, increases activation of **AMPK** and expression of its downstream **GLUT4**.

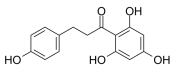
Purity: 99.57%
Clinical Data: No Development Reported
Size: 10 mg, 50 mg, 100 mg

Phloretin

(NSC 407292; RJC 02792)

Cat. No.: HY-N0142

Phloretin (NSC 407292; RJC 02792) is a flavonoid extracted from Prunus mandshurica, has anti-inflammatory activities. Phloridzin is a specific, competitive and orally active inhibitor of **sodium/glucose cotransporters** in the intestine (SGLT1) and kidney (SGLT2).

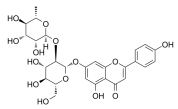


Purity: 99.78%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 250 mg, 500 mg

Rhoifolin

Cat. No.: HY-N0755

Rhoifolin is a flavone glycoside isolated from Citrus grandis (L.) Osbeck leaves. Rhoifolin is beneficial for diabetic complications through enhanced adiponectin secretion, tyrosine phosphorylation of **insulin receptor-β** and **glucose transporter 4 (GLUT 4)** translocation.

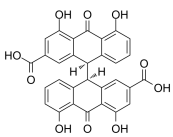


Purity: 99.24%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 20 mg

Sennidin A

Cat. No.: HY-N6936

Sennidin A, isolated from the leaves of Cassia angustifolia, inhibits **HCV NS3 helicase**, with an IC_{50} of 0.8 μM. Sennidin A induces phosphorylation of Akt and glucose transporter 4 (GLUT4) translocation. Sennidin A stimulates the glucose incorporation.

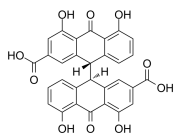


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Sennidin B

Cat. No.: HY-N6935

Sennidin B, a stereoisomer isolated from the leaves of Cassia angustifolia, has lower activity than Sennidin A. Sennidin A inhibits **HCV NS3 helicase**, with an IC_{50} of 0.8 μM. Sennidin A induces phosphorylation of Akt and glucose transporter 4 (GLUT4) translocation.

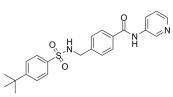


Purity: 98.78%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

STF-31

Cat. No.: HY-18728

STF-31 is a selective inhibitor of **glucose transporter 1 (GLUT1)**, with an IC_{50} of 1μM.

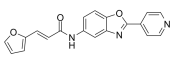


Purity: 96.97%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg

SW157765

Cat. No.: HY-139047

SW157765 is a selective non-canonical glucose transporter **GLUT8 (SLC2A8)** inhibitor. KRAS/KEAP1 double mutant NSCLC cells are selectively sensitive to the SW157765, due to the convergent consequences of dual KRAS and NRF2 modulation of metabolic and xenobiotic gene regulatory programs.

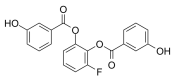


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

WZB117

Cat. No.: HY-19331

WZB117 is a **glucose transporter 1** (**Glut1**) inhibitor, which downregulates glycolysis, induces cell-cycle arrest, and inhibits cancer cell growth in vitro and in vivo.



Purity: 99.97%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg