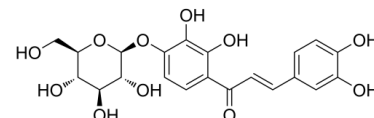


## Data Sheet

<b>Product Name:</b>	Marein
<b>Cat. No.:</b>	CS-0135183
<b>CAS No.:</b>	535-96-6
<b>Molecular Formula:</b>	C <sub>21</sub> H <sub>22</sub> O <sub>11</sub>
<b>Molecular Weight:</b>	450.39
<b>Target:</b>	AMPK; HDAC
<b>Pathway:</b>	Cell Cycle/DNA Damage; Epigenetics; PI3K/Akt/mTOR
<b>Solubility:</b>	DMSO : 25 mg/mL (55.51 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Marein has the neuroprotective effect due to a reduction of damage to mitochondria function and activation of the **AMPK signal pathway**. Marein improves insulin resistance induced by high glucose in HepG2 cells through CaMKK/AMPK/GLUT1 to promote glucose uptake, through IRS/Akt/GSK-3 $\beta$  to increase glycogen synthesis, and through Akt/FoxO1 to decrease gluconeogenesis. Marein is a **HDAC** inhibitor with an **IC<sub>50</sub>** of 100  $\mu$ M. Marein has beneficial antioxidative, antihypertensive, antihyperlipidemic and antidiabetic effects<sup>[1][2][3]</sup>. IC<sub>50</sub> & Target: IC<sub>50</sub>: 100  $\mu$ M (HDAC)<sup>[3]</sup> *In Vitro*: Marein (0-1000  $\mu$ M; 24 h) inhibits HDAC activity and TNF  $\alpha$ -induced NF- $\kappa$ B activation with IC<sub>50</sub> values of 100 and >200  $\mu$ M, respectively<sup>[1]</sup>.

Marein (1.25-40  $\mu$ M; 24 h) promotes glucose uptake in HepG2 cells<sup>[2]</sup>.

Marein (5-10  $\mu$ M; 24 h) promotes GLUT1 translocation from intercellular vesicles to the plasma membrane, increases hepatic glycogen content and down-regulates expression levels of G6Pase and PEPCK in HepG2 cells<sup>[2]</sup>.

Marein (5-10  $\mu$ M; 24 h) stimulates 2-NBDG uptake, and it can be reduced by STO-609 and compound C which is a inhibitor of AMPK<sup>[2]</sup>.

Marein (0-40  $\mu$ M; 24 h) affects the cytotoxicity of MG in PC12 cells<sup>[3]</sup>.

### References:

[1]. Baoping Jiang, et al. Protective effects of marein on high glucose-induced glucose metabolic disorder in HepG2 cells. *Phytomedicine*. 2016 Aug 15;23(9):891-900.

[2]. Baoping Jiang, et al. Marein protects against methylglyoxal-induced apoptosis by activating the AMPK pathway in PC12 cells. *Free Radic Res*. 2016;50(11):1173-1187.

[3]. B Orlikova, et al. Natural chalcones as dual inhibitors of HDACs and NF- $\kappa$ B. *Oncol Rep*. 2012 Sep;28(3):797-805.

### CAIndexNames:

2-Propen-1-one, 3-(3,4-dihydroxyphenyl)-1-[4-( $\beta$ -D-glucopyranosyloxy)-2,3-dihydroxyphenyl]-, (2E)-

### SMILES:

O=C(C1=CC=C(O[C@@H]2[C@@H]([C@H]([C@@H]([C@@H](CO)O2)O)O)C(O)=C1O)/C=C/C3=CC=C(O)C(O)=C3

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

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