Taiclone®
Quality Guarantee

Web: www.taiclone.com
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Metformin (hydrochloride)

Catalog No: tcsc1851

Available Sizes

Size: 10g

Size: 50g

Specifications

CAS No:
1115-70-4

Formula:
$C_4H_{12}ClN_5$

Pathway:
Autophagy;Epigenetics;PI3K/Akt/mTOR;Autophagy

Target:
Autophagy;AMPK;AMPK;Mitophagy

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 1.7 mg/mL (10.26 mM); H2O : ≥ 32 mg/mL (193.21 mM)

Alternative Names:
1,1-Dimethylbiguanide hydrochloride

Observed Molecular Weight:
165.62

Product Description

Metformin (hydrochloride) is a first-line drug for the treatment of type 2 diabetes and there is increasing evidence of a potential efficacy of this agent as an anti-cancer drug.

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In Vitro: Metformin inhibits proliferation of ESCs in a concentration-dependent manner. The IC_{50} is 2.45 mM for A-ESCs and 7.87 mM for N-ESCs. Metformin shows pronounced effects on activation of AMPK signaling in A-ESCs from secretory phase than in cells from proliferative phase[3]. Metformin (0-500 μM) decreases glycogen synthesis in a dose-dependent manner with an IC_{50} value of 196.5 μM in cultured rat hepatocytes[4]. Metformin shows cell viability and cytotoxic effects on PC-3 cells with IC_{50} of 5 mM[5].

In Vivo: Metformin (100 mg/kg, p.o.) alone, and metformin (25, 50, 100 mg/kg) with isoproterenol groups attenuates myocyte necrosis through histopathological analysis[1]. Metformin (> 900 mg/kg/day, p.o.) results in moribundity/mortality and clinical signs of toxicity in Crl:CD(SD) rats[2].