

# 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 :  $\geq 1.7$  mg/mL (10.26 mM); H<sub>2</sub>O :  $\geq 32$  mg/mL (193.21 mM)

**Alternative Names:**

1,1-Dimethylbiguanide hydrochloride

**Observed Molecular Weight:**

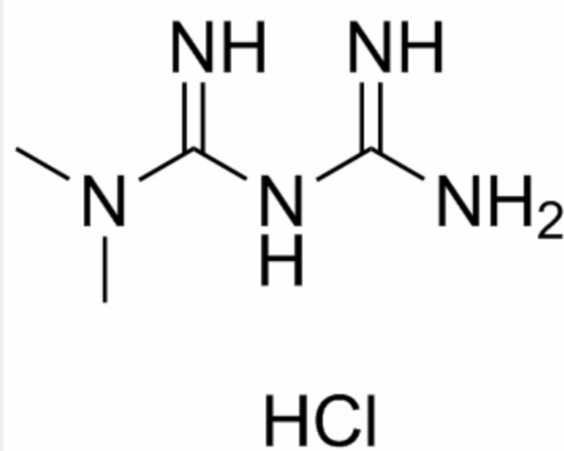
165.62

## 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.

**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<sup>[3]</sup>. Metformin (0-500  $\mu$ M) decreases glycogen synthesis in a dose-dependent manner with an  $IC_{50}$  value of 196.5  $\mu$ M in cultured rat hepatocytes<sup>[4]</sup>. Metformin shows cell viability and cytotoxic effects on PC-3 cells with  $IC_{50}$  of 5 mM<sup>[5]</sup>.

**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<sup>[1]</sup>. Metformin (> 900 mg/kg/day, p.o.) results in moribundity/mortality and clinical signs of toxicity in Crl:CD(SD) rats<sup>[2]</sup>.



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