Metformin hydrochloride (Standard)

Cat. No.: HY-17471AR

CAS No.: 1115-70-4

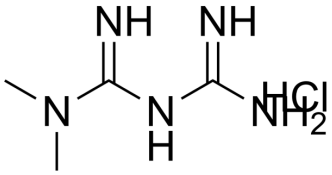
Molecular Formula: $C_4H_{12}ClN_5$

Molecular Weight: 165.62

Target: AMPK; Autophagy; Mitophagy

Pathway: Epigenetics; PI3K/Akt/mTOR; Autophagy

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (603.79 mM)

DMSO : ≥ 1.7 mg/mL (10.26 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	6.0379 mL	30.1896 mL	60.3792 mL
5 mM	1.2076 mL	6.0379 mL	12.0758 mL
10 mM	0.6038 mL	3.0190 mL	6.0379 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Metformin (hydrochloride) (Standard) is the analytical standard of Metformin (hydrochloride). This product is intended for research and analytical applications. Metformin hydrochloride (1,1-Dimethylbiguanide hydrochloride) inhibits the mitochondrial respiratory chain in the liver, leading to activation of AMPK, enhancing insulin sensitivity for type 2 diabetes research. Metformin hydrochloride triggers autophagy[1].

REFERENCES

[1]. Soraya H, et al. Acute treatment with metformin improves cardiac function following NSC 37745 induced myocardial infarction in rats. Pharmacol Rep. 2012;64(6):1476-84.

[2]. Xue J, et al. Metformin inhibits growth of eutopic stromal cells from adenomyotic endometrium via AMPK activation and subsequent inhibition of AKT phosphorylation: a possible role in the treatment of adenomyosis. Reproduction. 2013 Aug 21;146(4):397-406.

[3]. Otto M, et al. Metformin inhibits glycogen synthesis and gluconeogenesis in cultured rat hepatocytes. Diabetes Obes Metab. 2003 May;5(3):189-94.

[4]. Avci CB, et al. Therapeutic potential of an anti-diabetic drug, metformin: alteration of miRNA expression in prostate cancer cells. Asian Pac J Cancer Prev. 2013;14(2):765-8.

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