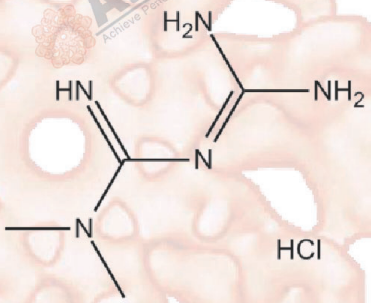
Product Data Sheet

Metformin HCl



Cat. No.:	B1970
CAS No.:	1115-70-4
Formula:	C4H12ClN5
M.Wt:	165.62
Synonyms:	
Target:	Others
Pathway:	Others
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

insoluble in EtOH; ⩾30.7 mg/mL in H2O; ⩾8.3 mg/mL in DMSO

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1mg	5mg	10mg
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

Shortsummary	Anti-diabetic drug
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Rat primary hepatocytes
Preparation method:	The solubility of this compound in DMSO is limited. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	10, 20, 500 μM, 2 mM; 39h;

	Applications:	Metformin activated AMPK in primary hepatocytes. Moreover, Metformin (2 mM, 3 hours) stimulated AMPK activity in skeletal muscle in association with induction of glucose uptake. Metformin (500 μM) reduced hepatic SREBP-1 expression in rat hepatocytes.
In Vivo	**Animal experiment**	
	Animal models:	Male C57BL/6 mice model;
	Dosage form:	200 mg/kg, oral gavage, twice daily for 5 days; or 250 mg/kg, intraperitoneal injection, for 3 days
	Applications:	Acetyl-CoA carboxylase (ACC) activity were reduced in metformin-treated rats [1]. Moreover, metformin required LKB1 in the liver to lower blood glucose levels [2].
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Yeo SK, Paul R, et al. "Improved efficacy of mitochondrial disrupting agents upon inhibition of autophagy in a mouse model of BRCA1-deficient breast cancer." Autophagy. 2018;14(7):1214-1225.PMID:29938573

2. Dong L, Li Y, et al. "DietaryApostichopus japonicus Alleviates Diabetes Symptoms and Modulates Genes Expression in Kidney Tissues of db/db Mice." J Agric Food Chem. 2018 Jan 2.PMID:29249162

See more customer validations on www.apexbt.com.

References

1. Zhou, G., Myers, R., Li, Y., Chen, Y., Shen, X., Fenyk-Melody, J., Wu, M., Ventre, J., Doebber, T., Fujii, N., Musi, N., Hirshman, M. F., Goodyear, L. J. and Moller, D. E. (2001) Role of AMP-activated protein kinase in mechanism of metformin action. J Clin Invest. 108, 1167-1174

2. Shaw, R. J., Lamia, K. A., Vasquez, D., Koo, S. H., Bardeesy, N., Depinho, R. A., Montminy, M. and Cantley, L. C. (2005) The kinase LKB1 mediates glucose homeostasis in liver and therapeutic effects of metformin. Science. 310, 1642-1646

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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