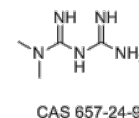


**Product Name** : Metformin  
**Cat. No.** : PC-20481  
**CAS No.** : 657-24-9  
**Molecular Formula** : C<sub>4</sub>H<sub>11</sub>N<sub>5</sub>  
**Molecular Weight** : 129.17  
**Target** : AMPK  
**Solubility** : 10 mM in DMSO



## Biological Activity

Metformin (1,1-Dimethylbiguanide) is a traditional anti-diabetic drug, functions by inhibiting complex I in the mitochondrial respiratory chain, activates AMPK and enhances insulin sensitivity.

Metformin exerts multiple pharmacological effects, which has inspired researchers to re-develop and reuse this drug.

Metformin can improve reactive oxygen species (ROS) production by reverse electron flow into mitochondrial complex I.

Metformin can specifically reduce liver gluconeogenesis at relevant concentrations without causing increased weight gain, insulin secretion, or the risk of hypoglycaemia.

Metformin attenuates ER stress-induced mitochondrial dysfunction.

## References

Zhou G, et al. J Clin Invest. 2001 Oct;108(8):1167-74.

Fryer LG, et al. J Biol Chem. 2002 Jul 12;277(28):25226-32.

**Caution: Product has not been fully validated for medical applications. Lab Use Only!**

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