

Metformin

AMPK Activator / mTOR Inhibitor

Catalog # tlr1-metf

For research use only

Version # 13D02-MM

PRODUCT INFORMATION

Content:

- 1 g Metformin

Storage and stability:

- Metformin is provided as a solid and shipped at room temperature. Store at 4°C. Solid product is stable 2 years when properly stored.

- Upon resuspension, prepare aliquots of metformin and store at -20°C. Avoid repeated freeze-thaw cycles. Resuspended product is stable for 1 month when properly stored.

CHEMICAL PROPERTIES

Synonym: Metformin hydrochloride

CAS number: 1115-70-4

Formula: C₄H₁₁N₅, HCL

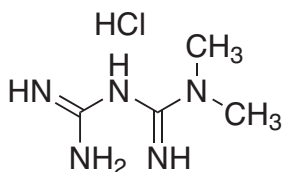
Molecular weight: 165.6

Solubility: 100 mM in water

Purity: >98%

Working concentration: 2 - 10 mM

Structure:



DESCRIPTION

Metformin activates adenosine monophosphate-activated protein kinase (AMPK), an enzyme that controls cell survival, mediates cell activation and metabolism. Metformin is used as an antidiabetic drug and displays significant growth inhibitory effects in several cancer models¹. Experimental data indicate that metformin blocks lymphoma cell growth through the inhibition of the mTOR pathway and the induction of autophagy².

1. **Dowling R. et al., 2011.** Understanding the benefit of metformin use in cancer treatment. BMC Medicine 9:33.

2. **Shi W. et al., 2012.** Therapeutic metformin/AMPK activation blocked lymphoma cell growth via inhibition of mTOR pathway and induction of autophagy. Cell Death Dis. 3:e275.

METHODS

Preparation of metformin stock solution (100 mM)

1. Weigh 10 mg of metformin and place in a sterile tube.
2. Add 604 µl water to 10 mg metformin.
3. Vortex until complete solubilization.
4. Prepare aliquots and store stock solution at -20°C.

RELATED PRODUCTS

Product	Catalog Code
Rapamycin (mTOR inhibitor)	tlrl-rap
Everolimus (mTOR inhibitor)	tlrl-eve

Other signal transduction inhibitors are available, for more information visit www.invivogen.com/inhibitors

TECHNICAL SUPPORT

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