Metformin

AMPK Activator / mTOR Inhibitor
Catalog # tlrl-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: C4H11 N5, HCL
Molecular weight: 165.6
Solubility: 100 mM in water
Purity: >98%
Working concentration: 2 - 10 mM

Structure:

\[
\text{HN} \quad \text{NH} \quad \text{NH} \quad \text{HCl} \\
\text{CH}_3 \\
\text{HN} \quad \text{NH} \quad \text{NH} \quad \text{CH}_3
\]

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 models. Experimental data indicate that metformin blocks lymphoma cell growth through the inhibition of the mTOR pathway and the induction of autophagy.


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

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<td>Everolimus (mTOR inhibitor)</td>
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Other signal transduction inhibitors are available, for more information visit www.invivogen.com/inhibitors