LKT Laboratories, Inc.

Metformin Hydrochloride

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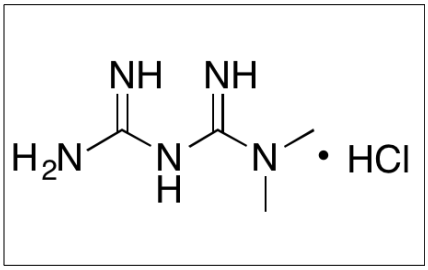
Product Information

Product ID M2076
CAS No. 1115-70-4
Chemical Name 1,1-Dimethylbiguanide Hydrochloride



Synonym Dimethylbiguanide hydrochloride, Imidodicaronimidic diamide, N,N-dimethyl-, monohydrochloride, N,N-Dimethylbiguanide hydrochloride

Formula $C_4H_{11}N_5 \cdot HCl$
Formula Wt. 165.62
Melting Point 223-226
Purity ≥98%
Solubility 100 mM water, 50 mM DMSO

Bulk quanitites available upon request

Product ID	Size
M2076	5 g
M2076	25 g
M2076	100 g

Store Temp Ambient
Ship Temp Ambient

Description Metformin is an AMPK activator that exhibits anti-diabetic, antihyperglycemic, antioxidative, immunosuppressive, anticancer chemotherapeutic, anti-metastatic, and chemopreventive activities. Metformin modulates glucose-6-phosphatase activity, decreasing glucose production and glycogenolysis. Additionally, it inhibits expression of TNF-α in the liver, reversing pathology of fatty liver disease in vivo. In podocytes, metformin decreases activity of NADPH oxidase and generation of free radicals. In other in vitro models, metformin inhibits expression of MHC molecules and co-stimulatory factors on dendritic cells, preventing antigen presentation. Across several hepatocellular carcinoma cell lines, metformin decreases expression of cyclin D1, cyclin E, and CDK4, inducing G0/G1 phase cell cycle arrest and inhibiting cell proliferation. In vivo, this compound also downregulates expression of c-myc, preventing neoplasia initiation in prostate cancer models. Metformin's activation of AMPK also inhibits Shh signaling in breast cancer models, suppressing proliferation, migration, and invasion.

References

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