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DATASHEET

Metformin hydrochloride

Product overview

Name	Metformin hydrochloride
Cat No	HB2153
Description	LKB1/AMPK activator. Also promotes neurogenesis.
Biological action	Activator

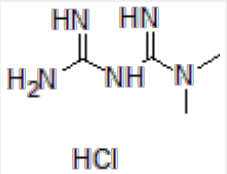
Biological Data

Biological description	LKB1/AMPK activator which is blood brain barrier permeable. It improves insulin sensitivity and decreases plasma glucose levels to show antidiabetic activity. Additionally, it displays antiproliferative effects in cancer cell lines, inhibits cancer stem cells (CSCs) and shows anticancer and anti-neoplastic effects. It also promotes neurogenesis by activating the PKC-CBP pathway. Recently investigated as part of COVID-19 compound repurposing.

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in water (100mM) or DMSO (50mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	*N,N*-Dimethylimidodicarbonimidic diamide hydrochloride
Molecular Weight	165.62
Chemical structure	
Molecular Formula	$C_4H_{11}N_5.HCl$
CAS Number	1115-70-4
PubChem identifier	14219
SMILES	CN(C)C(=N)N=C(N)N.Cl
InChi	InChI=1S/C4H11N5.ClH/c1-9(2)4(7)8-3(5)6;/h1-2H3,(H5,5,6,7,8);1H
InChiKey	OETHQSJEHLVLGH-UHFFFAOYSA-N
MDL number	MFCD00012582
Appearance	White solid

References

AMP-activated protein kinase in metabolic control and insulin signaling.

Towler and Hardie (2007) Circ Res 100(3)
PubMedID 17307971

Metformin, cancer and glucose metabolism.

Salani et al (2014) Endocr Relat Cancer 21(6)
PubMedID 25273809

Metformin activates an atypical PKC-CBP pathway to promote neurogenesis and enhance spatial memory formation.

Wang et al (2012) Cell Stem Cell 11(1)
PubMedID 22770240

A SARS-CoV-2 protein interaction map reveals targets for drug repurposing

Krogan et al (2020) Nature 7816
PubMedID 32353859