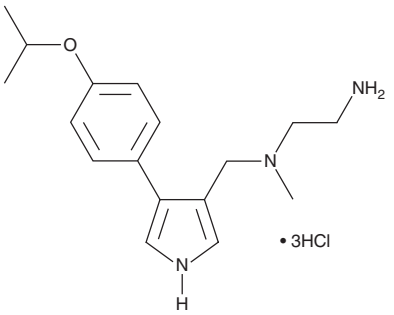
PRODUCT INFORMATION

MS023 (hydrochloride)

Item No. 18361

CAS Registry No.:	2108631-19-0
Formal Name:	N^1-methyl-N^1-[[4-[4-(1-methylethoxy)phenyl]-1H-pyrrol-3-yl]methyl]-1,2-ethanediamine, trihydrochloride
MF:	$C_{17}H_{25}N_3O \bullet 3HCl$
FW:	396.8
Purity:	≥95%
UV/Vis.:	λ_{max}: 250 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MS023 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the MS023 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. MS023 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of MS023 (hydrochloride) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of MS023 (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MS023 (hydrochloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

MS023 is an inhibitor of type I protein arginine methyltransferases (PRMTs; IC_{50}s = 30, 119, 83, 4, and 5 nM for PRMT1, -3, -4, -6, and -8, respectively).[1] It is selective for these type I PRMTs over PRMT5, -7, and -9, as well as a panel of 25 protein lysine methyltransferases (PKMTs) and DNA methyltransferases (DNMTs) when used at a concentration of 10 µM. It inhibits the methylation of histone 4 at arginine 3 (H4R3) in MCF-7 breast cancer cells (IC_{50} = 9 nM) and H3R2 in HEK293 cells (IC_{50} = 56 nM). MS023 (20 µM) also inhibits the methylation of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) nucleocapsid protein and the replication of SARS-CoV-2 in Vero E6 cells.[2] It reduces tumor growth in a Huh7 mouse xenograft model when administered at a dose of 160 mg/kg.[3]

References

1. Eram, M.S., Shen, Y., Szewczyk, M.M., *et al.* A potent, selective, and cell-active inhibitor of human type I protein arginine methyltransferases. *ACS Chem. Biol.* **11(3)**, 772-781 (2015).
2. Cai, T., Yu, Z., Wang, Z., *et al.* Arginine methylation of SARS-Cov-2 nucleocapsid protein regulates RNA binding, its ability to suppress stress granule formation, and viral replication. *J. Biol. Chem.* **297(1)**, 100821 (2021).
3. Hu, G., Yan, C., Xie, P., *et al.* PRMT2 accelerates tumorigenesis of hepatocellular carcinoma by activating *Bcl2* via histone H3R8 methylation. *Exp. Cell Res.* **394(2)**, 112152 (2020).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM