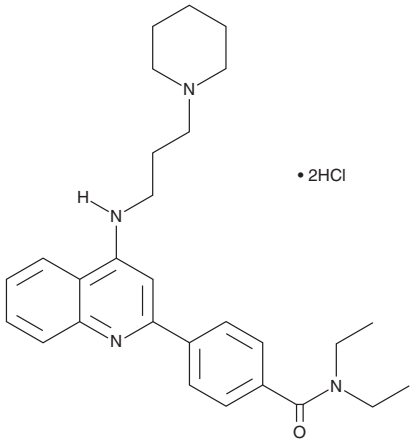
PRODUCT INFORMATION

LMW-PTP Inhibitor I (hydrochloride)

Item No. 22277



CAS Registry No.:	2310135-46-5
Formal Name:	N,N-diethyl-4-[4-[[3-(1-piperidinyl) propyl]amino]-2-quinolinyl]-benzamide, dihydrochloride
Synonyms:	LMPTP Inhibitor I, MLS-0322825 Cmpd 23
MF:	$C_{28}H_{36}N_4O$ • 2HCl
FW:	517.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 220, 268, 317, 345 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

LMW-PTP inhibitor I (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the LMW-PTP inhibitor I (hydrochloride) in the solvent of choice, which should be purged with an inert gas. LMW-PTP inhibitor I (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of LMW-PTP inhibitor I (hydrochloride) in these solvents is approximately 15, 10, and 20 mg/ml, respectively.

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 LMW-PTP inhibitor I (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of LMW-PTP inhibitor I (hydrochloride) in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

LMW-PTP inhibitor I (hydrochloride) is an inhibitor of low molecular weight phosphotyrosine protein phosphatase A (LMW-PTPA; IC_{50} = 0.8 µM).[1] It is selective for LMW-PTPA over a panel of 15 protein tyrosine phosphatases but does inhibit LMW-PTPB activity by greater than 50% at 40 µM. LMW-PTP inhibitor I (hydrochloride) increases insulin-induced insulin receptor phosphorylation in HepG2 cells when used at a concentration of 10 µM. It improves glucose tolerance and decreases fasting plasma insulin levels in a mouse model of diet-induced obesity when administered at a dose of 50 mg/kg per day.

Reference

1. Standford, S.M., Aleshin, A.E., Zhang, V., *et al.* Diabetes reversal by inhibition of the low-molecular-weight tyrosine phosphatase. *Nat. Chem. Biol.* **13(6)**, 624-632 (2017).

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