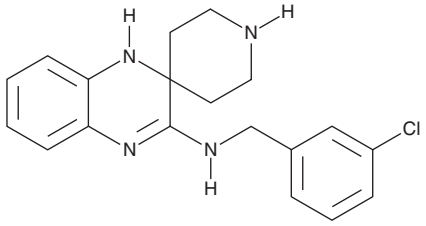
PRODUCT INFORMATION

Liproxstatin-1

Item No. 17730

CAS Registry No.:	950455-15-9
Formal Name:	N-[(3-chlorophenyl)methyl]-spiro[piperidine-4,2'(1'H)-quinoxalin]-3'-amine
MF:	$C_{19}H_{21}ClN_4$
FW:	340.9
Purity:	≥95%
UV/Vis.:	λ_{max}: 232, 276, 314 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

Liproxstatin-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the liproxstatin-1 in the solvent of choice. Liproxstatin-1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of liproxstatin-1 in these solvents is approximately 5, 16, and 25 mg/ml, respectively.

Description

Liproxstatin-1 is a ferroptosis inhibitor.[1] It inhibits ferroptotic cell death (IC_{50} = 22 nM) and lipid peroxidation in mouse embryonic fibroblasts (MEFs) with an inducible knockdown of glutathione peroxidase 4 (*Gpx4*$^{-/-}$ MEFs) when used at a concentration of 50 nM. Liproxstatin-1 also inhibits ferroptosis induced by the ferroptosis-inducing agents L-buthionine sulphoximine (BSO), erastin (Item No. 17754), and (1S,3R)-RSL3 (Item No. 19288) in a concentration-dependent manner in MEFs, but does not inhibit necroptosis, apoptosis, or necrosis. It inhibits cell death and lipid peroxidation induced by (1S,3R)-RSL3 in human renal proximal tubule epithelial cells. Liproxstatin-1 (10 mg/kg) increases survival and decreases TUNEL$^+$ kidney cells in inducible *Gpx4*$^{-/-}$ mice and reduces tissue injury in a mouse model of hepatic ischemia/reperfusion injury. It is also an antioxidant that inhibits autooxidation of lipids by trapping peroxyl radicals.[2]

References

1. Friedmann Angeli, J.P., Schneider, M., Proneth, B., *et al.* Inactivation of the ferroptosis regulator Gpx4 triggers acute renal failure in mice. *Nat. Cell. Biol.* **16(12)**, 1180-1191 (2014).
2. Zilka, O., Shah, R., Li, B., *et al.* On the mechanism of cytoprotection by ferrostatin-1 and liproxstatin-1 and the role of lipid peroxidation in ferroptotic cell death. *ACS Cent. Sci.* **3(3)**, 232-243 (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