# **PRODUCT** INFORMATION



## **ML-348**

Item No. 18523

CAS Registry No.: Formal Name:	899713-86-1 N-[2-chloro-5-(trifluoromethyl) phenyl]-4-(2-furanylcarbonyl)-1- piperazineacetamide	CF <sub>3</sub>
Synonyms:	CID-3238952, SID 160654487	
MF:	$C_{18}H_{17}CIF_3N_3O_3$	0
FW:	415.8	
Purity:	≥98%	
UV/Vis.:	λ <sub>max</sub> : 248 nm	
Supplied as:	A crystalline solid	
Storage:	-20°C	
Stability:	≥4 years	
Information represents the product excelling tions. Betch excelling analytical results are presided on each continents of analysis		

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#### Laboratory Procedures

ML-348 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-348 in the solvent of choice, which should be purged with an inert gas. ML-348 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ML-348 in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 ML-348 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ML-348 in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

#### Description

Lysophospholipase 1 (LYPLA1) is a protein palmitoyl thioesterase responsible for depalmitoylation of the oncogene HRas.<sup>1,2</sup> Palmitoylation of such oncogenes is thought to be required for trafficking and malignant transformation, making LYPLA1 a target for downregulating oncogenic signaling.<sup>1,2</sup> ML-348 is a reversible LYPLA1 inhibitor with an  $IC_{50}$  value of 210 nM.<sup>3</sup> It is 14-fold selective for LYPLA1 over LYPLA2 ( $IC_{50}$  = >3,000) and demonstrates little activity against a panel of more than 20 other serine hydrolases ( $IC_{50}$ s = >10,000).<sup>3</sup>

#### References

- 1. Martin, B.R. and Cravatt, B.F. Large-scale profiling of protein palmitoylation in mammalian cells. Nat. Methods 6(2), 135-138 (2009).
- 2. Dekker, F.J., Rocks, O., Vartak, N., et al. Small-molecule inhibition of APT1 affects Ras localization and signaling. Nat. Chem. Biol. 6(6), 449-456 (2010).
- 3. Adibekian, A., Martin, B.R., Chang, J.W., et al. Characterization of a selective, reversible inhibitor of lysophospholipase 1 (LYPLA1). Probe Reports from the NIH Molecular Libraries Program (2010).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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