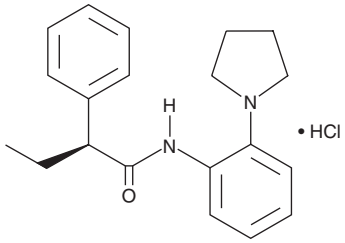
PRODUCT INFORMATION

ML-252 (hydrochloride)

Item No. 15191

CAS Registry No.:	2309887-61-2
Formal Name:	(S)-2-phenyl-N-(2-(pyrrolidin-1-yl)phenyl) butanamide, monohydrochloride
MF:	$C_{20}H_{24}N_2O \bullet HCl$
FW:	344.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 257, 304 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

ML-252 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-252 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. ML-252 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ML-252 (hydrochloride) in ethanol is approximately 20 mg/ml and approximately 10 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-252 (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ML-252 (hydrochloride) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

ML-252 is a potent and selective inhibitor of the voltage-gated potassium channel subtype $K_V7.2$ (IC_{50} = 69 nM in a patch clamp assay).[1] It is the (S)-enantiomer and is more potent than the (R)-enantiomer and the racemic mixture (IC_{50}s = 944 and 160 nM, respectively). It is selective for $K_V7.2$ over other K_V channel subtypes, >68 G protein-coupled receptors, transporters, L- and N-type calcium channels, and K_{ATP} and hERG potassium channels though it does inhibit the melatonin MT_1 receptor 61% when used at a concentration of 10 µM.

Reference

1. Cheung, Y.-Y., Yu, H., Xu, K., *et al.* Discovery of a series of 2-phenyl-N-(2-(pyrrolidin-1-yl)phenyl) acetamides as novel molecular switches that modulate modes of $K_V7.2$ (KCNQ2) channel pharmacology: Identification of (S)-2-phenyl-N-(2-(pyrrolidin-1-yl)phenyl)butanamide (ML252) as a potent, brain penetrant $K_V7.2$ channel inhibitor. *J. Med. Chem.* **55(15)**, 6975-6979 (2012).

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