

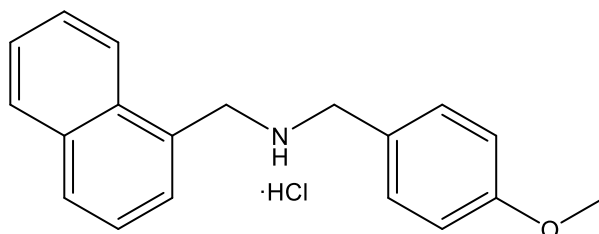
**Catalog #10-5098**

**ML133**

CAS# 1222781-70-5

N-[(4-Methoxyphenyl)methyl]-1-naphthalenemethanamine hydrochloride

Lot # E107113



ML133 is a potent and selective blocker of the inwardly rectifying Kir2 potassium channel,  $IC_{50}$ s = 1.8, 2.8, 2.9, and 4.0  $\mu$ M for Kir2.1, Kir2.6, Kir2.2, and Kir2.3, respectively.<sup>1</sup> Intrathecal injection of ML133 attenuated the proliferation of microglia and neuropathic pain behaviors after nerve injury.<sup>2</sup> ML133 inhibits microglial priming pointing to Kir2.1 channels as a new therapeutic target for neuronal damage.<sup>3</sup> Moreover, treatment with ML133 one hour post-injury was sufficient to improve neuronal survival in a traumatic brain injury human organoid model.<sup>4</sup>

- 1) Wang *et al.* (2011), *Selective inhibition of the K(ir)2 family of inward rectifier potassium channels by a small molecule probe: the discovery, SAR, and pharmacological characterization of ML 133*; ACS Chem. Biol. **6** 845
- 2) Gattlen *et al.* (2020), *The inhibition of Kir2.1 potassium channels depolarizes spinal microglial cells, reduces their proliferation, and attenuates neuropathic pain*; Glia **68** 2119
- 3) Spencer *et al.* (2016), *Mechanisms Underlying Interferon- $\gamma$ -Induced Priming of Microglial Reactive Oxygen Species Production*; PLoS One **11** e0162497
- 4) Lai *et al.* (2024), *KCNJ2 inhibition mitigates mechanical injury in a human brain organoid model of traumatic brain injury*; Cell Stem Cell **31** 519

**PHYSICAL DATA**

Molecular Weight:	313.83
Molecular Formula:	C <sub>19</sub> H <sub>19</sub> NO·HCl
Purity:	>98% (HPLC)
	NMR: (Conforms)
Solubility:	DMSO (32 mg/mL) and water (10 mg/mL with warming)
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or distilled water may be stored at -20°C for up to 3 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462

[www.focusbiomolecules.com](http://www.focusbiomolecules.com)