Taiclone®
Quality Guarantee

Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

ML402

Catalog No: tcsc7802

Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
298684-44-3

Formula:
$C_{14}H_{14}ClNO_2S$

Pathway:
Membrane Transporter/Ion Channel

Target:
Potassium Channel

Purity / Grade:
>98%

Solubility:
DMSO : 150 mg/mL (507.13 mM; Need ultrasonic and warming)

Observed Molecular Weight:
295.78

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Product Description

ML402 is a selective **TREK-1** activator.

IC50 & Target: TREK-1[1]

In Vitro: Xenopus oocyte two-electrode voltage-clamp measurements show that ML335 and ML402 activate K_{2P}2.1 and K_{2P}10.1 but not K_{2P}4.1(14.3±2.7 μM, K_{2P}2.1-ML335; 13.7±7.0 μM, K_{2P}2.1-ML402; 5.2±0.5 μM, K_{2P}10.1-ML335; and 5.9±1.6 μM, K_{2P}10.1-ML402). The K_{2P} modulator pocket has a single difference among TREK subfamily members at the cation-π interaction position, K_{2P} 2.1 Lys271, which is also a lysine in K_{2P}10.1 but a glutamine in K_{2P}4.1.

Swapping the Lys271 equivalent between K_{2P}2.1 and K_{2P}4.1 results in a clear phenotype reversal for ML335 and M402 activation. K_{2P}2.1 (K271Q) is insensitive to ML335 and ML402, whereas K_{2P}4.1 (Q258K) responds to both with a similar EC_{50} to K_{2P}2.1 (14.3±2.7 μM, K_{2P}2.1-ML335; 16.2±3.0 μM, K_{2P}4.1(Q258K)-ML335; 13.7±7.0 μM, K_{2P}2.1-ML402; 13.6±1.5 μM, K_{2P}4.1 (Q258K)-ML402) but with a lower magnitude response than K_{2P}2.1[1].