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产品名称：ML-213
产品别名：ML-213

生物活性：

Description	ML213 is a selective activator of Kv7.2 and Kv7.4 channels, enhances Kv7.2 and Kv7.4 channels with EC_{50}s of 230 and 510 nM, respectively.
IC_{50} & Target	EC50: 230 nM (Kv7.2 channel), 510 nM (Kv7.4 channel)[2][3]
In Vitro	ML213 (100 nM-30 μM) increases maximal conductance to a peak at 212% ± 27% of control, with an EC_{50} of 0.8 ± 0.3 μM. ML213 (10 μM) reduces the deactivation rates of Kv7.4 currents by 4.6-fold in the voltage range from −130 mV to −90 mV. ML213 is a potent and effective activator of homomeric Kv7.5 channels overexpressed in A7r5 cells. ML213 increases maximal conductance of Kv7.5 channels with an EC_{50} of 0.7 ± 0.2 μM. ML213 (10 μM) also reduces deactivation rates of Kv7.5 currents by 5.9-fold on average. ML213 produces similar effects on heteromeric Kv7.4/7.5 channels: 204% ± 11% maximal increase in conductance with an EC_{50} of 1.1 ± 0.6 μM and a 34.2 ± 3.3 mV maximal negative shift of the activation curve, with an EC_{50} of 3.8 ± 1.2 μM[1]. ML213 causes a vasorelaxation in different precontracted rat blood vessels. ML213 (10 μM) also hyperpolarizes mesenteric artery smooth muscle cells[2]. ML213 causes a concentration-dependent shift in the V1/2 for KCNQ2 activation with an EC_{50} 340 ± 70 nM and a maximal shift of 37.4 mV[3].
Solvent&Solubility	***In Vitro:*** **DMSO : 30 mg/mL (116.56 mM;** Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.8855 mL	19.4273 mL	38.8546 mL
5 mM	0.7771 mL	3.8855 mL	7.7709 mL
10 mM	0.3885 mL	1.9427 mL	3.8855 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

References

[1]. Brueggemann LI, et al. Differential activation of vascular smooth muscle Kv7.4, Kv7.5, and Kv7.4/7.5 channels by ML213 and ICA-069673. Mol Pharmacol. 2014 Sep;86(3):330-41.

[2]. Jepps TA, et al. Vasorelaxant effects of novel Kv 7.4 channel enhancers ML213 and NS15370. Br J Pharmacol. 2014 Oct;171(19):4413-24.

[3]. Yu H, et al. Discovery, Synthesis, and Structure Activity Relationship of a Series of N-Aryl-bicyclo[2.2.1]heptane-2-carboxamides: Characterization of ML213 as a Novel KCNQ2 and KCNQ4 Potassium Channel Opener. ACS Chem Neurosci. 2011 Oct 19;2(10):572-577.