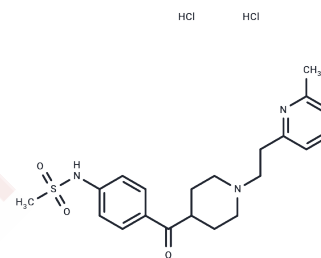


## E-4031 dihydrochloride

## Chemical Properties

CAS No. :	113559-13-0
Formula:	C <sub>21</sub> H <sub>29</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>3</sub> S
Molecular Weight:	474.44
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	E-4031 dihydrochloride is a methanesulfonamide class III antiarrhythmic agent that prolongs cardiac action potential duration by blocking ERG K <sup>+</sup> channels (IC <sub>50</sub> = 29 nM)
Targets(IC <sub>50</sub> )	EGFR, Potassium Channel
In vivo	At baseline, APD was longer in LQT1 than in LMC rabbits in LV apex and RV mid. Erythromycin and E-4031 prolonged APD in LQT1 and LMC rabbits in all positions. However, erythromycin-induced percentage APD prolongation related to baseline (% APD) was more pronounced in LQT1 at LV base-lateral and RV mid positions (100 μM, LQT1, +40.6 ± 9.7% vs. LMC, +24.1 ± 10.0%, p<0.05) and E-4031-induced %APD prolongation was more pronounced in LQT1 at LV base-lateral (0.01 μM, LQT1, +29.6 ± 10.6% vs. LMC, +19.1 ± 3.8%, p<0.05) and LV base-septal positions. Moreover, erythromycin significantly increased spatial APD dispersion only in LQT1 and increased triangulation only in LQT1 in LV base-septal and RV mid positions. Similarly, E-4031 increased triangulation only in LQT1 in LV apex and base-septal positions[1]
Animal Research	Hearts of adult female transgenic LQT1 and wild type littermate control (LMC) rabbits were Langendorff-perfused with increasing concentrations of HERG/IKr-blockers E-4031 (0.001-0.1 μM, n=9/7) and APD, APD dispersion, and triangulation were analyzed[1].

## Solubility Information

Solubility	H <sub>2</sub> O: 135 mg/mL (284.55 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.1077 mL	10.5387 mL	21.0775 mL
5 mM	0.4215 mL	2.1077 mL	4.2155 mL
10 mM	0.2108 mL	1.0539 mL	2.1077 mL
50 mM	0.0422 mL	0.2108 mL	0.4215 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

David Z , Julia B , Gerlind F , et al. Pronounced Effects of HERG-Blockers E-4031 and Erythromycin on APD, Spatial APD Dispersion and Triangulation in Transgenic Long-QT Type 1 Rabbits[J]. PLoS ONE, 2014, 9(9):e107210-.

Nalos L , Varkevisser R , Jonsson M K B , et al. Comparison of the IKr blockers moxifloxacin, dofetilide and E-4031 in five screening models of pro-arrhythmia reveals lack of specificity of isolated cardiomyocytes[J]. British Journal of Pharmacology, 2011, 165(2):467-478.

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