

Product data sheet



MedKoo Cat#: 527084 Name: Isoprenaline hydrochloride CAS: 5984-95-2 (HCl) Chemical Formula: C ₁₁ H ₁₈ ClNO ₃ Molecular Weight: 247.719	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Isoprenaline hydrochloride is a β 1- and β 2-adrenoreceptor agonist.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.04 mL	20.18 mL	40.37 mL
5 mM	0.81 mL	4.04 mL	8.07 mL
10 mM	0.40 mL	2.02 mL	4.04 mL
50 mM	0.08 mL	0.40 mL	0.81 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Fiserova I, Trinh MD, Elkalaf M, Vacek L, Heide M, Martinkova S, Bechynska K, Kosek V, Hajslova J, Fiser O, Tousek P, Polak J. Isoprenaline modified the lipidomic profile and reduced β -oxidation in HL-1 cardiomyocytes: In vitro model of takotsubo syndrome. *Front Cardiovasc Med.* 2022 Aug 22;9:17989. doi: 10.3389/fcvm.2022.917989. PMID: 36072861; PMCID: PMC9441769.

2. Zhang Y, Ding Y, Li M, Yuan J, Yu Y, Bi X, Hong H, Ye J, Liu P. MicroRNA-34c-5p provokes isoprenaline-induced cardiac hypertrophy by modulating autophagy via targeting ATG4B. *Acta Pharm Sin B.* 2022 May;12(5):2374-2390. doi: 10.1016/j.apsb.2021.09.020. Epub 2021 Sep 25. PMID: 35646533; PMCID: PMC9136534.

In vivo study

1. Shi L, Du X, Zuo B, Hu J, Cao W. Qige Huxin Formula Attenuates Isoprenaline-Induced Cardiac Fibrosis in Mice via Modulating Gut Microbiota and Protecting Intestinal Integrity. *Evid Based Complement Alternat Med.* 2022 Jul 20;2022:2894659. doi: 10.1155/2022/2894659. PMID: 35911163; PMCID: PMC9328975.

2. Du XQ, Shi LP, Chen ZW, Hu JY, Zuo B, Xiong Y, Cao WF. Astragaloside IV Ameliorates Isoprenaline-Induced Cardiac Fibrosis in Mice via Modulating Gut Microbiota and Fecal Metabolites. *Front Cell Infect Microbiol.* 2022 May 17;12:836150. doi: 10.3389/fcimb.2022.836150. PMID: 35656031; PMCID: PMC9152365.

7. Bioactivity

Biological target:

Isoprenaline hydrochloride is a β 1- and β 2-adrenoreceptor agonist.

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In vitro activity

The lipidomic profiles after 24 h of exposure to 2.5 mM ISO (isoprenaline) showed significant separation from control conditions, as shown in the PCA (Figure 4B). Profound changes in the lipidomic profile were detected after 24 h of ISO exposure, where 39 lipid molecules were differentially affected.

Reference: Front Cardiovasc Med. 2022 Aug 22;9:917989. <https://pubmed.ncbi.nlm.nih.gov/36072861/>

In vivo activity

The CF (cardiac fibrosis) model was established by subcutaneously injecting the mice with isoprenaline (10 mg/kg/d for 14 days), followed by QHF (Qige Huxin formula) treatment.

Reference: Evid Based Complement Alternat Med. 2022 Jul 20;2022:2894659. <https://pubmed.ncbi.nlm.nih.gov/35911163/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.