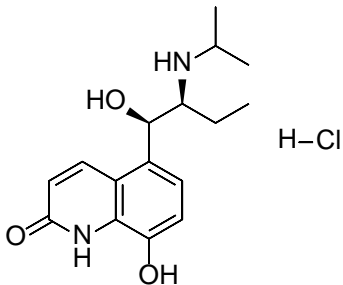


# Product data sheet



MedKoo Cat#: 318574 Name: Procaterol hydrochloride CAS: 62929-91-3 (HCl) Chemical Formula: C <sub>16</sub> H <sub>23</sub> ClN <sub>2</sub> O <sub>3</sub> Exact Mass: 326.1397 Molecular Weight: 326.821	
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:

Procaterol hydrochloride is a specific and very potent  $\beta$ 2-AR agonist. It acts as a vasodialator for long term treatment of asthma.

## 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
DMSO	48.84	149.44
Ethanol	3.0	9.18
Water	48.84	149.44

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.06 mL	15.30 mL	30.60 mL
5 mM	0.61 mL	3.06 mL	6.12 mL
10 mM	0.31 mL	1.53 mL	3.06 mL
50 mM	0.06 mL	0.31 mL	0.61 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

- Deng Z, Zhou JJ, Sun SY, Zhao X, Sun Y, Pu XP. Procaterol but not dexamethasone protects 16HBE cells from H<sub>2</sub>O<sub>2</sub>-induced oxidative stress. *J Pharmacol Sci.* 2014;125(1):39-50. doi: 10.1254/jphs.13206fp. Epub 2014 Apr 16. PMID: 24739282.
- Yamaya M, Nishimura H, Hatachi Y, Yoshida M, Fujiwara H, Asada M, Nakayama K, Yasuda H, Deng X, Sasaki T, Kubo H, Nagatomi R. Procaterol inhibits rhinovirus infection in primary cultures of human tracheal epithelial cells. *Eur J Pharmacol.* 2011 Jan 10;650(1):431-44. doi: 10.1016/j.ejphar.2010.09.056. Epub 2010 Oct 15. PMID: 20940011.

### In vivo study

- Shindoh C, Sasaki K, Shindoh Y, Tamura G. Inhalation and incubation with procaterol increases diaphragm muscle contractility in mice. *Allergol Int.* 2007 Sep;56(3):285-91. doi: 10.2332/allergolint.O-06-463. Epub 2007 Aug 1. PMID: 17646734.
- Tashimo H, Yamashita N, Ishida H, Nagase H, Adachi T, Nakano J, Yamamura K, Yano T, Yoshihara H, Ohta K. Effect of procaterol, a beta(2) selective adrenergic receptor agonist, on airway inflammation and hyperresponsiveness. *Allergol Int.* 2007 Sep;56(3):241-7. doi: 10.2332/allergolint.O-06-456. Epub 2007 Jul 1. PMID: 17582211.

## 7. Bioactivity

### Biological target:

Procaterol hydrochloride is a specific and very potent  $\beta$ 2-AR agonist.

# Product data sheet



## In vitro activity

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This study evaluated procaterol and dexamethasone in the hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>)-induced immortal human bronchial epithelial cell model of oxidative stress and investigated the underlying mechanisms. Results showed that exposure to 125  $\mu$ M H<sub>2</sub>O<sub>2</sub> for 2 h led to a 50% reduction in the cell viability, significantly increased the percentage of apoptosis, and elevated levels of malondialdehyde and reactive oxygen species. Pretreatment with procaterol (25 - 200 nM) could reduce these effects in a dose-dependent manner. In contrast, pretreatment with dexamethasone (100 nM, 1000 nM) was inefficient.

Reference: J Pharmacol Sci. 2014;125(1):39-50. <https://pubmed.ncbi.nlm.nih.gov/24739282/>

## In vivo activity

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Three intervention groups were investigated: a procaterol inhalation only group; a procaterol inhalation plus endotoxin injection mouse group (in vivo); and a procaterol incubation group (in vitro). The diaphragm muscle in all groups was dissected and measurements of its contractile properties were performed. The effects of procaterol inhalation shifted the force-frequency curves upward at 30 minutes after inhalation, and inhibited the decline of force-frequency curves due to endotoxin injection in vivo.

Reference: Allergol Int. 2007 Sep;56(3):285-91. <https://pubmed.ncbi.nlm.nih.gov/17646734/>

*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.*