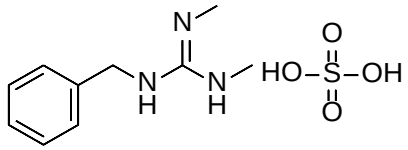
Product data sheet

MedKoo Cat#: 317321 Name: Bethanidine Sulfate CAS#: 114-85-2 (sulfate) Chemical Formula: $C_{10}H_{17}N_3O_4S$ Molecular Weight: 275.32	
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:
Bethanidine sulfate is a guanidinium antihypertensive agent that acts by blocking adrenergic transmission.

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

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	3.63 mL	18.16 mL	36.32 mL
5 mM	0.73 mL	3.63 mL	7.26 mL
10 mM	0.36 mL	1.82 mL	3.63 mL
50 mM	0.07 mL	0.36 mL	0.73 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. Dangman KH, Miura DS. Electrophysiological effects of bethanidine sulfate on canine cardiac Purkinje fibers and ventricular muscle cells. J Cardiovasc Pharmacol. 1985 Jan-Feb;7(1):50-8. doi: 10.1097/00005344-198501000-00009. PMID: 2580150.
2. Bkaily G, Payet MD, Benabderrazik M, Renaud JF, Sauvé R, Bacaner MB, Sperelakis N. Bethanidine increased Na+ and Ca2+ currents and caused a positive inotropic effect in heart cells. Can J Physiol Pharmacol. 1988 Mar;66(3):190-6. doi: 10.1139/y88-033. PMID: 3383015.

In vivo study

TBD

7. Bioactivity
Biological target:

Bethanidine sulfate is a guanidinium antihypertensive agent that acts by blocking adrenergic transmission.

In vitro activity

The effects of bethanidine sulphate were studied on action potentials (APs) and K+, Na+, and Ca2+ currents of single cultured embryonic chick heart cells using the whole-cell current clamp and voltage clamp technique. Extracellular application of bethanidine (3 X 10(-4) M) increased the overshoot and the duration of the APs and greatly decreased the outward K+ current (IK) and potentiated the inward fast Na+ currents (INa) and the inward slow calcium current (ICa). However, intracellular introduction of bethanidine (10(-4) M) blocked Ina. These findings suggest that when applied extracellularly, bethanidine exerts a potentiating effect on the myocardial

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fast Na+ current and slow Ca2+ current and an inhibitory effect of IK. The positive inotropic effect of bethanidine could be due, at least in part, to an increase of Ca2+ influx via the slow Ca2+ channel and the Na-Ca exchange. It is suggested that the decrease of IK by bethanidine may account for its antifibrillatory action.

Reference: Can J Physiol Pharmacol. 1988 Mar;66(3):190-6. https://cdnsciencepub.com/doi/10.1139/y88-033?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%200pubmed

In vivo activity

TBD

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.