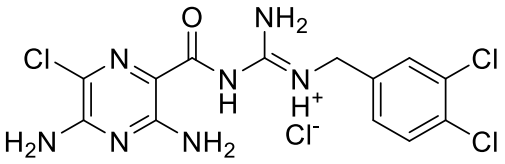
Product data sheet

MedKoo Cat#: 527073 Name: L594881 HCl CAS: 928621-15-2 (HCl) Chemical Formula: $C_{13}H_{13}Cl_4N_7O$ Exact Mass: 422.9936 Molecular Weight: 425.095	
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:
L594881, also known as 3',4'-Dichlorobenzamil or DCB, is an inhibitor of Na+/Ca2+ exchanger, Na+ transport and sarcoplasmic reticulum Ca2+ release channels. L594881 can inhibit Na+/Ca2+ exchanger, Na+ transport and sarcoplasmic reticulum Ca2+ release channels.

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	2.35 mL	11.76 mL	23.52 mL
5 mM	0.47 mL	2.35 mL	4.70 mL
10 mM	0.24 mL	1.18 mL	2.35 mL
50 mM	0.05 mL	0.24 mL	0.47 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. Siddiqui R, Roberts SK, Ong TYY, Mungroo MR, Anwar A, Khan NA. Novel insights into the potential role of ion transport in sensory perception in Acanthamoeba. Parasit Vectors. 2019 Nov 14;12(1):538. doi: 10.1186/s13071-019-3785-0. PMID: 31727139; PMCID: PMC6857129.
2. Doleschal B, Primessnig U, Wölkart G, Wolf S, Schernthaner M, Lichtenegger M, Glasnov TN, Kappe CO, Mayer B, Antoons G, Heinzel F, Poteser M, Groschner K. TRPC3 contributes to regulation of cardiac contractility and arrhythmogenesis by dynamic interaction with NCX1. Cardiovasc Res. 2015 Apr 1;106(1):163-73. doi: 10.1093/cvr/cvv022. Epub 2015 Jan 28. PMID: 25631581; PMCID: PMC4362401.

In vivo study

1. Zhu J, Dong X, Liu Q, Wu C, Wang Q, Long Z, Li L. Hydrophobic bile acids relax rat detrusor contraction via inhibiting the opening of the Na^+/Ca^{2+} exchanger. Sci Rep. 2016 Feb 19;6:21358. doi: 10.1038/srep21358. PMID: 26892434; PMCID: PMC4759538.
2. Kim JE, Choi BK, Choi JY, Ryu T, Roh WS, Song SY. Role of calcium channels responsible for phenylephrine-induced contraction in rat aorta 3 days after acute myocardial infarction. Korean J Anesthesiol. 2014 Feb;66(2):143-52. doi: 10.4097/kjae.2014.66.2.143. Epub 2014 Feb 28. PMID: 24624273; PMCID: PMC3948442.

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7. Bioactivity

Biological target:

L594881, also known as 3',4'-Dichlorobenzamil or DCB, is an inhibitor of Na+/Ca2+ exchanger, Na+ transport and sarcoplasmic reticulum Ca2+ release channels.

In vitro activity

Remarkably 3',4'-dichlorobenzamil hydrochloride a sodium-calcium exchange inhibitor, completely abolished excystation of Acanthamoeba.

Reference: Parasit Vectors. 2019 Nov 14;12(1):538. https://pubmed.ncbi.nlm.nih.gov/31727139/

In vivo activity

This study found that the NCX inhibitor 3',4'-Dichlorobenzamil (DCB) can significantly inhibit the relaxation of rat bladder detrusor strips and a reduction of the [Ca(2+)]i induced by LCA, while the antagonist of muscarinic receptor and the agonist of the G protein-coupled bile acid receptor (TGR5) and the farnesoid X receptor (FXR) had no effect.

Reference: Sci Rep. 2016 Feb 19;6:21358. https://pubmed.ncbi.nlm.nih.gov/26892434/

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.