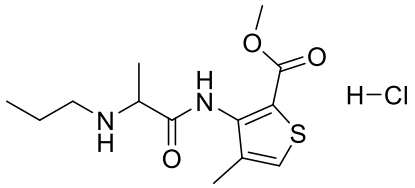
Product data sheet

MedKoo Cat#: 561391 Name: Articaine HCl CAS#: 23964-57-0 (HCl) Chemical Formula: $C_{13}H_{21}ClN_2O_3S$ Molecular Weight: 320.83	
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:
Articaine HCl is a local anesthetic. Articaine HCl blocks nerve conduction by reversibly binding to the alpha-subunit of the voltage-gated sodium channels within the inner cavity of the nerve.

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	39.5	123.12
DMF	20.0	62.34
Ethanol	34.5	107.53
PBS (pH 7.2)	10.0	31.17
Water	64.0	199.48

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	3.12 mL	15.58 mL	31.17 mL
5 mM	0.62 mL	3.12 mL	6.23 mL
10 mM	0.31 mL	1.56 mL	3.12 mL
50 mM	0.06 mL	0.31 mL	0.62 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

TBD

In vivo study

1. Rodrigues da Silva GH, Geronimo G, García-López JP, Ribeiro LNM, de Moura LD, Breitkreitz MC, Feijóo CG, de Paula E. Articaine in functional NLC show improved anesthesia and anti-inflammatory activity in zebrafish. Sci Rep. 2020 Nov 12;10(1):19733. doi: 10.1038/s41598-020-76751-6. PMID: 33184457; PMCID: PMC7665027.
2. Zhao G, Lu S, Li L, Fan X. Local anesthetic articaine ameliorates LPS-induced acute kidney injury via inhibition of NF-κB activation and the NLRP3 inflammasome pathway. J Biochem Mol Toxicol. 2020 Oct;34(10):e22554. doi: 10.1002/jbt.22554. Epub 2020 Jul 20. PMID: 32687258.

7. Bioactivity
Biological target:

Articaine hydrochloride (Hoe-045) is used in dental.

Product data sheet

In vitro activity

TBD

In vivo activity

The evaluation of critical biomarkers has a significant impact on the prognosis of the disease. Therefore, the effect of ART (Articaine) was initially assessed on BUN, CRE, and sCysC, which were known to be characteristic markers for the kidney, and the results are presented in Figure 1. The levels of BUN, CRE, and sCysC were found elevated in the LPS-treated rat group as compared to control, whereas, in the ART-treated group, the level of these biomarkers were found to be significantly decreased in a dose-dependent manner.

Reference: J Biochem Mol Toxicol. 2020 Oct;34(10):e22554. https://pubmed.ncbi.nlm.nih.gov/32687258/

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.