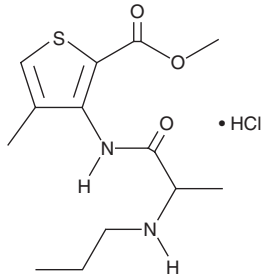
PRODUCT INFORMATION

Articaine (hydrochloride)

Item No. 17883

CAS Registry No.: 23964-57-0
Formal Name: 4-methyl-3-[[1-oxo-2-(propylamino)propyl] amino]-2-thiophenecarboxylic acid, methyl ester, monohydrochloride
Synonyms: Carticaine, HOE 045, HOE 40045
MF: $C_{13}H_{20}N_2O_3S \bullet HCl$
FW: 320.8
Purity: ≥98%
UV/Vis.: λ_{max}: 274 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Articaine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the articaine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Articaine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of articaine (hydrochloride) in these solvents is approximately 5, 15, and 20 mgl/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of articaine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of articaine (hydrochloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Most local anesthetics act by abolishing voltage-gated sodium channel currents indiscriminately in all populations of neurons. Articaine is an amide local anesthetic most commonly used in dentistry.[1] It possesses a unique ester side chain that is metabolized rapidly by circulating esterases.[2] Articaine is reported to modify cardiac action potentials and ion currents only at concentrations higher than the therapeutic range needed to inhibit voltage-gated sodium channels.[2]

References

1. Weaver, J.M. Articaine, a new local anesthetic for American dentists: Will it supercede lidocaine? *Anesth. Prog.* **46**, 111-112 (1999).
2. Szabó, A., Szentandrássy, N., Birinyi, P., *et al.* Effects of articaine on action potential characteristics and the underlying ion currents in canine ventricular myocytes. *Br. J. Anaesth.* **99(5)**, 726-733 (2007).

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