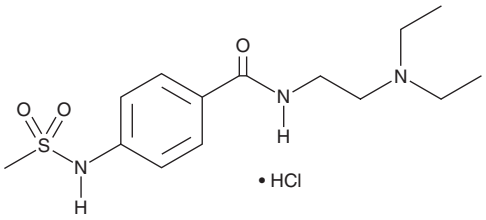
PRODUCT INFORMATION

Sematilide (hydrochloride)

Item No. 28272

CAS Registry No.: 101526-62-9
Formal Name: N-[2-(diethylamino)ethyl]-4-[(methylsulfonyl)amino]-benzamide, monohydrochloride
Synonym: CK-1752A
MF: $C_{14}H_{23}N_3O_3S \bullet HCl$
FW: 349.9
Purity: ≥98%
UV/Vis.: λ_{max}: 261 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

Sematilide (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the sematilide (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Sematilide (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sematilide (hydrochloride) in ethanol is approximately 3 mg/ml and approximately 12 mg/ml in DMSO and DMF.

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 sematilide (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of sematilide (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Sematilide is a class III antiarrhythmic agent and an analog of sotalol (Item No. 16136).[1] It prolongs electrically stimulated action potential duration (APD) and increases the effective refractory period (ERP) in isolated guinea pig left atria. Sematilide decreases spontaneous sinoatrial beating rates and induces ERP prolongation of the atrioventricular node in isolated perfused canine hearts.[2] *In situ*, sematilide (1 mg/kg) increases ERP, prolonging cardiac refractoriness, in open-chest dog hearts. Sematilide (0.3-6 mg/kg) inhibits arrhythmias induced by programmed electrical stimulation (PES), but not coronary ligation and reperfusion, two-stage coronary ligation, adrenaline, or digitalis, in dogs.[3] Formulations containing sematilide have been used in the treatment of arrhythmias.

References

1. Ishii, Y., Muraki, K., Kurihara, A., *et al. Jpn. J. Pharmacol.* **68(2)**, 175-182 (1995).
2. Yamada, A., Motomura, S., and Hashimoto, K. *J. Cardiovasc. Pharmacol.* **27(1)**, 159-166 (1996).
3. Xue, Y.X., Eto, K., Akie, Y., *et al. Jpn. J. Pharmacol.* **70(2)**, 129-138 (1996).

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