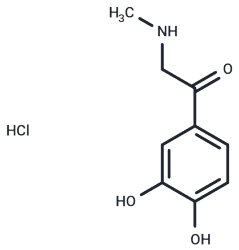
Data Sheet (Cat.No.T0948)

TargetMol

Adrenalone hydrochloride

Chemical Properties



CAS No. : 62-13-5

Formula: C9H11NO3·HCl

Molecular Weight: 217.65

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Adrenalone hydrochloride (Adrenalone HCl) is a dopamine β-oxidase inhibitor with a similar structure to the norepinephrine transporter (NET) ligand, with an IC50 of 36.9 μM. It is an adrenergic agonist that acts as a local vasoconstrictor and hemostatic agent.
Targets(IC50)	Adrenergic Receptor
In vitro	Adrenalone is the ketone form of adrenaline, which is used as a topical hemostatic agent, vasoconstrictor, and nasal vasoconstrictor. In a nitrogenated aqueous solution containing 10 or 100 mM tert-butanol, Adrenalone (0.1 mM) reduces Adrenalone by hydration of electrons, resulting in the same transient spectrum, and thus all OH radicals are scavenged. Although Adrenalone acted similarly to carbonyl compounds in the reduction process, it was mainly controlled by catechol functional groups in the oxidation reaction. Adrenalone (12 μM) inhibited the conversion of dopamine to norepinephrine by inhibiting dopamine β-oxidase. Unlike Epinine, which has a keto group in the β-site, Adrenalone contains an amine group (ionic bond with Asp75), an aromatic ring (hydrophobic interactions with Tyr152, Phe72, and Phe317), and a hydroxyl group (hydrogen bonding with Ala145).10 μM and 100 μM Adrenalone 10 μM and 100 μM Adrenalone reduced substrate uptake by 99% and 27%, respectively.
In vivo	Adrenalone is the ketone form of adrenaline, which is used as a topical hemostatic agent, vasoconstrictor, and nasal vasoconstrictor. In a nitrogenated aqueous solution containing 10 or 100 mM tert-butanol, Adrenalone (0.1 mM) reduces Adrenalone by hydration of electrons, resulting in the same transient spectrum, and thus all OH radicals are scavenged. Although Adrenalone acted similarly to carbonyl compounds in the reduction process, it was mainly controlled by catechol functional groups in the oxidation reaction. Adrenalone (12 μM) inhibited the conversion of dopamine to norepinephrine by inhibiting dopamine β-oxidase. Unlike Epinine, which has a keto group in the β-site, Adrenalone contains an amine group (ionic bond with Asp75), an aromatic ring (hydrophobic interactions with Tyr152, Phe72, and Phe317), and a hydroxyl group (hydrogen bonding with Ala145).10 μM and 100 μM Adrenalone 10 μM and 100 μM Adrenalone reduced substrate uptake by 99% and 27%, respectively.

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 60 mg/mL (275.67 mM),Sonication is recommended. H2O: 40 mg/mL (183.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.5945 mL	22.9727 mL	45.9453 mL
5 mM	0.9189 mL	4.5945 mL	9.1891 mL
10 mM	0.4595 mL	2.2973 mL	4.5945 mL
50 mM	0.0919 mL	0.4595 mL	0.9189 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Goldstein M, et al. Nature, 1961, 192, 1081.
Bors W, et al. Journal of Physical Chemistry, 1979, 83(19), 2447-2452.
Schlessinger A, et al. Proc Natl Acad Sci U S A, 2011, 108(38), 15810-15815.
Bodor N, et al. Exp Eye Res, 1984, 38(6), 621-626.