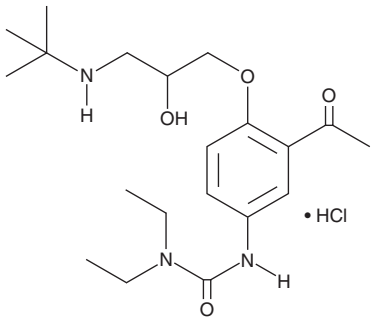
PRODUCT INFORMATION

Celiprolol (hydrochloride)

Item No. 16715

CAS Registry No.:	57470-78-7
Formal Name:	N'-[3-acetyl-4-[3-[(1,1-dimethylethyl) amino]-2-hydroxypropoxy]phenyl]-N,N-diethyl-urea, monohydrochloride
Synonyms:	Corliprol, NSC 324509
MF:	$C_{20}H_{33}N_3O_4$ • HCl
FW:	416.0
Purity:	≥98%
UV/Vis.:	λ_{max}: 234, 328 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

Celiprolol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the celiprolol (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Celiprolol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of celiprolol (hydrochloride) in ethanol is approximately 2 mg/ml and approximately 10 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 celiprolol (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of celiprolol (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

Celiprolol is a β_1 adrenergic receptor antagonist and a β_2 adrenergic receptor partial agonist that has been shown to relax human arteries and veins with ED_{50} values of 40-50 µM *in vitro*.[1] At 1-10 mg/kg/h, celiprolol can reduce myocardial infarct size and increase nitric oxide (NO) production in a rabbit model of myocardial ischemia.[2] Furthermore, 100 mg/kg/d celiprolol has been reported to stimulate expression and activate phosphorylation of endothelial NO synthase in rat cardiac myocytes.[3]

References

1. Hoffman, D.L. Mitochondria and cellular homeostatis: Beyond ATP synthesis. *Mitochondrial Health 2014* (2014).
2. Chen, X., Minatoguchi, S., Arai, M., *et al.* Celiprolol, a selective β1-blocker, reduces the infarct size through production of nitric oxide in a rabbit model of myocardial infarction. *Circ. J.* **71(4)**, 574-579 (2007).
3. Liao, Y., Asakura, M., Takashima, S., *et al.* Celiprolol, a vasodilatory β-blocker, inhibits pressure overload-induced cardiac hypertrophy and prevents the transition to heart failure via nitric oxide-dependent mechanisms in mice. *Circulation* **110(6)**, 692-699 (2004).

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