

Product Data Sheet

Product Name: Labetalol
Cat. No.: GC64143

Chemical Properties

Cas. No. 36894-69-6

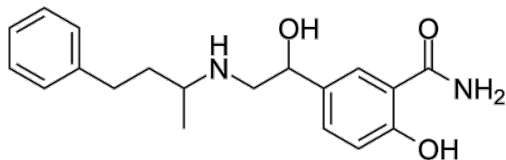
Formula C₁₉H₂₄N₂O₃ M.Wt 328.41

Solubility DMSO : 125 mg/mL (380.62 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Background

Labetalol (AH5158) is an orally active selective α_1 - and non-selective β -adrenergic receptors competitive antagonist. Labetalol, an anti-hypertensive agent, can be used for the research of cardiovascular disease, such as hypertension in pregnancy[1][2][3].

Labetalol exhibits greater affinity for β -adrenergic sites on guinea pig heart and lung membranes ($IC_{50}=0.8$ and $4.0 \mu M$ respectively) [2]. Labetalol has affinity for α -adrenergic binding sites ($IC_{50}=15 \mu M$) on rabbit uterine membranes. Labetalol has 19 times greater binding affinity for β binding sites in heart membranes than α binding sites in uterine membranes[2].

Labetalol (10 mg/kg; i.h.) passes the blood-brain barrier, reaching a level of 2.1 ug/g tissue in the 10-day-old rat pups brain 90 min after injection[4]. Labetalol (5.0 mg/kg; i.p.) attenuates circulating IL-1 β and IL-6 in tailshock stress rats[5].

- [1]. Brogden RN, et al. Labetalol: a review of its pharmacology and therapeutic use in hypertension. *Drugs*. 1978;15(4):251-270.
- [2]. Greenslade FC, et al. Labetalol binding to specific alpha- and beta-adrenergic sites in vitro and its antagonism of adrenergic responses in vivo. *J Mol Cell Cardiol*. 1979 Aug;11(8):803-11.
- [3]. Easterling T, et al. Oral antihypertensive regimens (nifedipine retard, labetalol, and methyldopa) for management of severe hypertension in pregnancy: an open-label, randomised controlled trial. *Lancet*. 2019 Sep 21;394(10203):1011-1021.
- [4]. Erdtsieck-Ernste EB, et al. Changes in adrenoceptors and monoamine metabolism in neonatal and adult rat brain after postnatal exposure to the antihypertensive labetalol. *Br J Pharmacol*. 1992 Jan;105(1):37-44.
- [5]. Johnson JD, et al. Catecholamines mediate stress-induced increases in peripheral and central inflammatory cytokines. *Neuroscience*. 2005;135(4):1295-307.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA