

Product Data Sheet

Product Name: A 61603 hydrobromide

Cat. No.: GC14527

Chemical Properties

Cas. No. 107756-30-9

Chemical Name (S)-N-(5-(4,5-dihydro-1H-imidazol-2-yl)-2-hydroxy-5,6,7,8-tetrahydronaphthalen-1-yl)methanesulfonamide hydrobromide

SMILES OC1=C(C2=C(C=C1)[C@@H](C3=NCCN3)CCC2)NS(=O)(C)=O.Br

Formula $C_{14}H_{19}N_3O_3S.HBr$

M.Wt 390.29

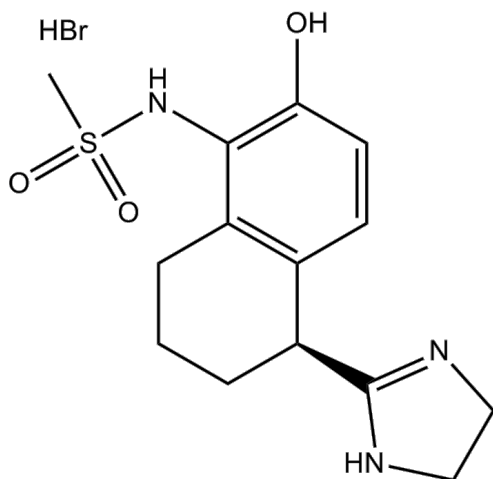
Solubility DMF: 20 mg/ml, DMSO: 20 mg/ml, Ethanol: 1 mg/ml, PBS (pH 7.2): 10 mg/ml

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



Background

A 61603 hydrobromide is a potent and selective agonist of α_1A -adrenoceptor [1].

α_1A -adrenoceptor (α_1A -AR) belongs to α_1 -adrenergic receptors, which include three subtypes α_1A ,

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

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α 1B and α 1D and play an important role in regulating cell growth and proliferation.

A 61603 hydrobromide is a potent and selective α 1A-adrenoceptor agonist. A-61603 was 35-fold more potent at α 1A-AR than at α 1B-AR or α 1D-AR. In fibroblast cells transfected with α 1A-AR, A-61603 significantly stimulated phosphoinositide hydrolysis [1]. A 61603 exhibited affinity for α 1A-AR, α 1B-AR and α 1D-AR with pKi values of 8.05/7.52, 5.68 and 5.87, respectively. Also, A 61603 exhibited agonist activities for α 1A-AR, α 1B-AR and α 1D-AR with pEC50 values of 8.24/7.66, 6.50 and 5.59, respectively [2]. In neonatal rat ventricular myocytes, A61603 significantly increased the frequency of Ca²⁺ transients with EC50 value of 6.9 nM in a dose-dependent way [3]. In mesenteric vascular bed isolated from mice, A61603 significantly increased perfusion pressure with 235-fold higher potency than phenylephrine, which suggested that α 1A-AR plays an important role in the control of blood pressure [4].

References:

- [1]. Knepper SM, Buckner SA, Brune ME, et al. A-61603, a potent alpha 1-adrenergic receptor agonist, selective for the alpha 1A receptor subtype. J Pharmacol Exp Ther, 1995, 274(1): 97-103.
- [2]. Meyer MD, Altenbach RJ, Hancock AA, et al. Synthesis and in vitro characterization of N-[5-(4,5-dihydro-1H-imidazol-2-yl)-2-hydroxy-5,6,7,8-tetrahydronaphthalen-1-yl]methanesulfonamide and its enantiomers: a novel selective alpha 1A receptor agonist. J Med Chem, 1996, 39(20): 4116-4119.
- [3]. Luo DL, Gao J, Fan LL, et al. Receptor subtype involved in alpha 1-adrenergic receptor-mediated Ca²⁺ signaling in cardiomyocytes. Acta Pharmacol Sin, 2007, 28(7): 968-974.
- [4]. Martínez-Salas SG1, Campos-Peralta JM, Pares-Hipolito J, et al. Alpha1A-adrenoceptors predominate in the control of blood pressure in mouse mesenteric vascular bed. Auton Autacoid Pharmacol, 2007, 27(3): 137-142.

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