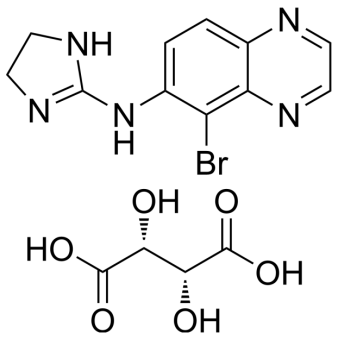
Brimonidine tartrate

Cat. No.:	HY-B0659A
CAS No.:	70359-46-5
Molecular Formula:	$C_{15}H_{16}BrN_5O_6$
Molecular Weight:	442.22
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (113.07 mM; Need ultrasonic)

H_2O : 25 mg/mL (56.53 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent Mass	1 mg	5 mg	10 mg
1 mM	2.2613 mL	11.3066 mL	22.6132 mL
5 mM	0.4523 mL	2.2613 mL	4.5226 mL
10 mM	0.2261 mL	1.1307 mL	2.2613 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (226.13 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.65 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.65 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Brimonidine tartrate (UK 14304 tartrate) is a full α2-adrenergic receptor (α2-AR) agonist.

IC_{50} & Target

α adrenergic receptor

In Vitro

[3H]Brimonidine (UK 14304) is a full agonist at alpha 2-adrenergic receptors. [3H]Brimonidine (UK 14304) labels at least 2 specific binding sites in human brain that both have the characteristics of an alpha 2-adrenergic binding site. GTP decreases agonist binding at both of these sites, but with different potencies at each site [1-3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Rep. 2019 Dec 3;29(10):2929-2935.e4
- Int J Pharm. 2021 Dec 9;121361.
- J Ocul Pharmacol Ther. 2023 Jun 13.

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REFERENCES

[1]. Andorn, A.C., M.A. Carlson, and R.C. Gilkeson, Specific [3H]UK 14,304 binding in human cortex occurs at multiple high affinity states with alpha 2-adrenergic selectivity and differing affinities for GTP. Life Sci, 1988. 43(22): p. 1805-12.

[2]. Cambridge, D., UK-14,304, a potent and selective alpha2-agonist for the characterisation of alpha-adrenoceptor subtypes. Eur J Pharmacol, 1981. 72(4): p. 413-5.

[3]. Chopin, P., F.C. Colpaert, and M. Marien, Effects of alpha-2 adrenoceptor agonists and antagonists on circling behavior in rats with unilateral 6-hydroxydopamine lesions of the nigrostriatal pathway. J Pharmacol Exp Ther, 1999. 288(2): p. 798-804.

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