Brimonidine

Cat. No.: HY-B0659

CAS No.: 59803-98-4

Molecular Formula: $C_{11}H_{10}BrN_5$

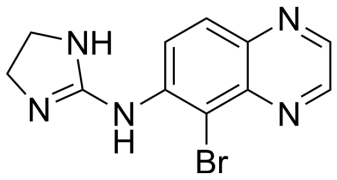
Molecular Weight: 292.13

Target: Adrenergic Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (171.16 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.4231 mL	17.1157 mL	34.2313 mL
	5 mM	0.6846 mL	3.4231 mL	6.8463 mL
	10 mM	0.3423 mL	1.7116 mL	3.4231 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.56 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.56 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 2.5 mg/mL (8.56 mM); Clear solution; Need warming

BIOLOGICAL ACTIVITY

Description

Brimonidine (UK 14304) 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][2][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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