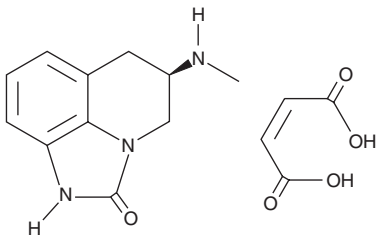
PRODUCT INFORMATION

Sumanirole (maleate)

Item No. 11984

CAS Registry No.:	179386-44-8
Formal Name:	(5R)-5R,6-dihydro-5-(methylamino)-4H-imidazo[4,5,1-ij]quinolin-2(1H)-one, 2Z-butenedioate
Synonym:	PNU 95666
MF:	$C_{11}H_{13}N_3O \bullet C_4H_4O_4$
FW:	319.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 210, 283 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

Sumanirole (maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the sumanirole (maleate) in the solvent of choice. Sumanirole (maleate) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of sumanirole (maleate) in these solvents is approximately 16 and 12.5 mg/ml, respectively.

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 sumanirole (maleate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of sumanirole (maleate) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Sumanirole is a dopamine D_2 receptor agonist that is selective for D_2 over D_1, D_3, and D_4 receptors (K_is = 9.0, >7,140, 1,940, and >2,190 nM, respectively).[1] It inhibits forskolin-stimulated cAMP accumulation in CHO cells expressing human recombinant D_{2A} receptors (EC_{50} = 17 nM). Sumanirole decreases plasma prolactin levels in rats when administered at doses greater than or equal to 3.1 µmol/kg and inhibits dopamine neuron firing in the substantia nigra pars compacta (SNPC) in anesthetized rats (ED_{50} = 2.3 µmol/kg). Sumanirole (≥12.5 µmol/kg, s.c.) increases horizontal locomotor activity in a reserpinized, α-methyl-*para*-tyrosine (AMPT) rat model of Parkinson's disease. It also decreases time spent in the open arms of the elevated plus maze and time spent immobile in the forced swim test, indicating anxiolytic- and antidepressant-like activities, respectively, in mice with SNPC lesions when administered at a dose of 0.1 mg/kg.[2] Sumanirole (≥0.1 mg/kg, s.c.) reduces premature responding, a measure of impulsivity, by rats in the 5-choice serial reaction time test (5CRTT) compared with untreated animals.[3]

References

1. McCall, R.B., Lookingland, K.J., Bédard, P.J., *et al. J. Pharmacol. Exp. Ther.* **314(3)**, 1248-1256 (2005).
2. Carcinella, S., Drui, G., Boulet, S., *et al. Transl. Psychiatry* **4(e401)**, (2014).
3. Fernando, A.B., Economidou, D., Theobald, D.E., *et al. Psychopharmacology (Berl).* **219(2)**, 341-352 (2012).

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