

PRODUCT INFORMATION



NS 11394

Item No. 23872

CAS Registry No.: 951650-22-9

Formal Name: 3'-[5-(1-hydroxy-1-methylethyl)-1H-benzimidazol-1-yl]-[1,1'-biphenyl]-2-carbonitrile

MF: C₂₃H₁₉N₃O

FW: 353.4

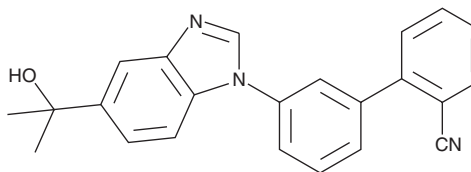
Purity: ≥98%

UV/Vis.: λ_{max}: 251 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

NS 11394 is supplied as a crystalline solid. A stock solution may be made by dissolving the NS 11394 in the solvent of choice, which should be purged with an inert gas. NS 11394 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NS 11394 in these solvents is approximately 33 mg/ml.

NS 11394 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NS 11394 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. NS 11394 has a solubility of approximately 0.16 mg/ml in a 1:5 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

NS 11394 is an orally bioavailable positive allosteric modulator of the GABA_A receptor ($K_i = 0.423$ nM in rat cortical membranes).¹ It is selective for GABA_A receptors containing α_1 , α_2 , α_3 , or α_5 subunits (K_i s = 0.41, 0.84, 0.497, and 0.119 nM, respectively) over receptors containing α_4 or α_6 subunits (K_i s = 324 or 1,009 nM, respectively). In *X. laevis* oocytes, NS 11394 modulates GABA responses via receptors containing the subunits α_3 and α_5 , with maximal potentiation rates of 52% and 78%, respectively, relative to diazepam (Item No. ISO60177). *In vivo*, NS 11394 inhibits the binding of [³H]flunitrazepam to benzodiazepine receptors in the forebrain of mice and rats, with respective EC₅₀ values of 0.38 and 1.3 mg/kg at 30 minutes and 0.49 and 0.69 mg/kg at 120 minutes following oral administration. NS 11394 (1-30 mg/kg) attenuates spontaneous nociceptive behaviors to formalin and capsaicin (Item No. 92350) injections in a rat model of neuropathic pain.²

References

1. Mirza, N.R., Larsen, J.S., Mathiasen, C., *et al.* NS11394 [3'-[5-(1-hydroxy-1-methyl-ethyl)-benzimidazol-1-yl]-biphenyl-2-carbonitrile], a unique subtype-selective GABA_A receptor positive allosteric modulator: In vitro actions, pharmacokinetic properties and in vivo anxiolytic efficacy. *J. Pharmacol. Exp. Ther.* **327**(3), 954-968 (2008).
2. Muro, G., Lopez-Garcia, J.A., Rivera-Arconada, I., *et al.* Comparison of the novel subtype-selective GABA_A receptor-positive allosteric modulator NS11394 [3'-[5-(1-hydroxy-1-methyl-ethyl)-benzimidazol-1-yl]-biphenyl-2-carbonitrile] with diazepam, zolpidem, bretazenil, and gaboxadol in rat models of inflammatory and neuropathic pain. *J. Pharmacol. Exp. Ther.* **327**(3), 969-981 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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