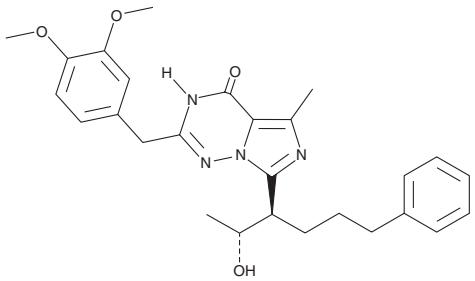
PRODUCT INFORMATION

BAY 60-7550

Item No. 10011135

CAS Registry No.: 439083-90-6
Formal Name: 2-[(3,4-dimethoxyphenyl)methyl]-7-[(1R)-1-hydroxyethyl]-4-phenylbutyl]-5-methyl-imidazo[5,1-f][1,2,4]triazin-4(1H)-one
MF: $C_{27}H_{32}N_4O_4$
FW: 476.6
Purity: ≥95%
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

BAY 60-07550 is supplied a crystalline solid. A stock solution may be made by dissolving the BAY 60-07550 in the solvent of choice, which should be purged with an inert gas. BAY 60-07550 is soluble in organic solvents such as ethanol, acetone, and DMSO. The solubility of BAY 60-7550 in these solvents is approximately 10 mg/ml.

Description

The second messengers cAMP and cGMP are important mediators of signal transduction and hence a wide range of cellular processes including vasodilation and synaptic plasticity. Type 2 cyclic nucleotide phosphodiesterases (PDE2) isoforms inactivate cAMP and cGMP by hydrolyzing the phosphodiester bond. BAY 60-7550 is a potent PDE2 inhibitor with IC_{50} values of 2.0 nM (bovine) and 4.7 nM (human).[1] It is 50-fold more selective for PDE2 compared to PDE1 and greater than 100-fold selective compared to PDE5 PDE5B, PDE4B, PDE7B, PDE8A, PDE9A, PDE10A, and PDE11A.[1] At 3 mg/kg BAY 60-7550 antagonizes oxidative stress-induced anxiety-like behavioral effects in mice by increasing cGMP signaling.[2] At 1 mg/kg BAY 60-7550 improves the performance of rats in an object location task, enhancing cAMP/cGMP-mediated object and spatial memory consolidation.[3]

References

1. Boess, F.G., Hendrix, M., van der Staay, F.-J. , *et al.* Inhibition of phosphodiesterase 2 increases neuronal cGMP, synaptic plasticity and memory performance. *Neuropharmacology* **47(7)**, 1081-1092 (2004).
2. Masood, A., Nadeem, A., Mustafa, S.J., *et al.* Reversal of oxidative stress-induced anxiety by inhibition of phosphodiesterase-2 in mice. *J. Pharmacol. Exp. Ther.* **326(2)**, 369-379 (2008).
3. Rutten, K., Van Donkelaar, E.L., Ferrington, L., *et al.* Phosphodiesterase inhibitors enhance object memory independent of cerebral blood flow and glucose utilization in rats. *Neuropsychoparmacology* **34(8)**, 1914-1925(2009).

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