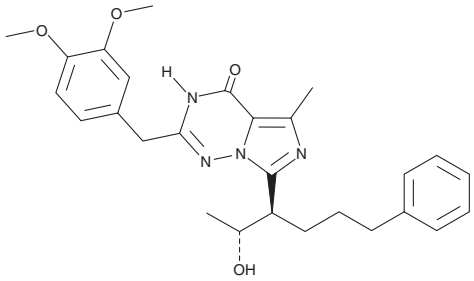
PRODUCT INFORMATION

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%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that BAY 60-07550 be stored as supplied at -20°C. It should be stable for at least two years.

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. BAY 60-07550 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of BAY 60-7550 in these solvents is approximately 10 mg/ml.

BAY 60-0755 is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent 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. We do not recommend storing the aqueous solution for more than one day.

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**, 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* (2009).

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