Product Data Sheet

Chemical Properties

Product Name: Bay 60-7550
Cas No.: 439083-90-6
M.Wt: 476.57
Formula: C27H32N4O4
Synonyms: BAY 607550; Bay60-7550; Bay-60-7550
Chemical Name: 2-[(3,4-dimethoxyphenyl)methyl]-7-[(2R,3R)-2-hydroxy-6-phenylhexan-3-yl]-5-methyl-1H-imidazo[5,1-f][1,2,4]triazin-4-one
Canonical SMILES: CC1=C2C(=O)N=C(NN2C(=N1)C(CCCC3=CC=CC=C3)C(C)O)CC4=CC(=C(C=C4)OC)OC
Solubility: Soluble in DMSO
Storage: Store at -20°C
General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Metabolism
Pathways: PDE
Description: Bay 60-7550 is a potent and selective inhibitor of 3',5'-cyclic nucleotide phosphodiesterase type 2 (PDE2) with IC50 value of 4.7 nM for human recombinant PDE2 [1]. In the signal transduction process, the redundant second messenger cGMP is degraded by the
cyclic nucleotide phosphodiesterases. Among the 11 families of PDEs, PDE2 can hydrolyse both cAMP and cGMP and control the levels of both them in the areas which are important for memory formation and storage. Therefore, the inhibition of PDE2 activity is thought to be good to improve memory functions via enhancing neuronal plasticity. Bay 60-7550 is a highly potent and selective inhibitor of PDE2. It increased the levels of cGMP in both hippocampal slices and cultured neurons. In animal models, Bay 60-7550 was found to have positive effects on there cognition performance [1].

As a potent PDE2 inhibitor, Bay 60-7550 suppressed activity of the purified enzyme obtained from bovine heart with an IC50 value of 2 nM. It showed no significant effects on other PDEs including PDE1, 3B, 4B, 5, 7B, 8A, 9A, 10A and 11A. For other similar receptors or enzymes, the IC50 values of Bay 60-7550were all more than 10 μM. Besides that, Bay 60-7550 had no effects on adenosine deaminase even though the concentration was up to 10 μM. In cultured rat cortical neurons and hippocampal neurons, the combination therapy of Bay 60-7550 and Bay 41-8543 resulted in notably increase of cGMP levels. In rat hippocampal slices, treatment of Bay 60-7550 caused a significant higher potentiation of the field excitatory postsynaptic potential slope [1].

In rodent models, oral administration of Bay 60-7550 at doses of 1 and 3 mg/kg resulted in improvement of memory performance. In addition, Bay 60-7550 was found to mediate decrease of oxidative stress in mice models. It significantly reversed the decrease of both percentage of open arm entries and percentage of open arm time induced by oxidative stress at dose of 3 mg/kg in the elevated plus-maze test [1 and 2].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.
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