

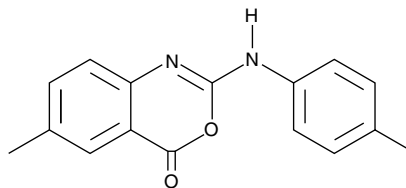
Product Information



URB754

Item No. 10007691

CAS Registry No.: 86672-58-4
Formal Name: 6-methyl-2-[(4-methylphenyl)amino]-4H-3,1-benzoxazin-4-one
MF: C₁₆H₁₄N₂O₂
FW: 266.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that URB754 be stored as supplied at -20°C. It should be stable for at least two years.

URB754 is supplied as a crystalline solid. A stock solution may be made by dissolving the URB754 in an organic solvent purged with an inert gas. URB754 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of URB754 in these solvents is 10 and 20 mg/ml, respectively.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. 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.

2-Arachidonoyl glycerol (2-AG) is an endogenous agonist of the central cannabinoid (CB₁) receptor.^{1,2} It is present at relatively high levels in the central nervous system and is the most abundant molecular species of monoacylglycerol found in rat brain.^{2,3} Monoacylglycerol lipase (MAGL) hydrolyzes 2-AG to arachidonic acid and glycerol, thereby terminating its biological actions.⁴ URB754 is reported to be a potent, noncompetitive inhibitor of MAGL, exhibiting an IC₅₀ of 200 nM for the recombinant rat brain enzyme.⁵ However, data from other labs indicates that it does not inhibit human recombinant, rat brain, or mouse brain MAGL at concentrations up to 100 μM.^{6,7} It inhibits rat brain fatty acyl amide hydrolase (FAAH) with an IC₅₀ of 32 μM and binds weakly to the rat CB₁ receptor with an IC₅₀ of 3.8 μM.⁵ It does not inhibit cyclooxygenase-1 (COX-1) or COX-2 at concentrations up to 100 μM.⁵ Inhibition of 2-AG hydrolysis is associated with enhanced stress-induced analgesia and may represent a novel drug target in pain and stress management.⁸

References

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5. Makara, J.K., Mor, M., Fegley, D., *et al.* *Nature Neuroscience* **8**(9), 1139-1141 (2005).
6. Saario, S.M., Palomäki, V., Lehtonen, M., *et al.* URB754 has no effect on the hydrolysis or signaling capacity of 2-AG in the rat brain. *Chemistry & Biology* **13**, 811-814 (2006).
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8. Hohmann, A.G., Suplita, R.L., Bolton, N.M., *et al.* *Nature* **435**, 1108-1112 (2005).

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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