

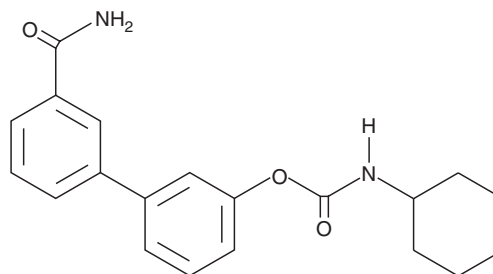
# Product Information



## URB597

Item No. 10046

**CAS Registry No.:** 546141-08-6  
**Formal Name:** (3'-(aminocarbonyl)[1,1'-biphenyl]-3-yl)-cyclohexylcarbamate  
**MF:** C<sub>20</sub>H<sub>22</sub>N<sub>2</sub>O<sub>3</sub>  
**FW:** 338.4  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that URB597 be stored as supplied at -20°C. It should be stable for at least two years.

URB597 is supplied as a crystalline solid. A stock solution may be made by dissolving the URB597 in an organic solvent purged with an inert gas. URB597 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of URB597 in ethanol is approximately 1 mg/ml, and 10 mg/ml in DMSO and DMF.

URB597 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, URB597 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. URB597 has a solubility of 500 µg/ml in a 1:1 solution of DMF:PBS (pH 7.2) or in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. 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.

The enzyme fatty acid amide hydrolase (FAAH) is widely expressed in brain and other tissues, and is capable of hydrolyzing anandamide (AEA) and other simple esters and amides with long unsaturated acyl chains.<sup>1</sup> URB597 was recently synthesized and reported to be a potent and selective inhibitor of FAAH.<sup>2</sup> URB597 inhibits FAAH with an IC<sub>50</sub> of 4.6 nM in brain membranes and 0.5 nM in intact neurons. It has been demonstrated in FAAH<sup>(-/-)</sup> mice that marked depression of FAAH activity results in reduced sensation of pain and enhanced endocannabinoid signalling.<sup>3</sup> URB597 exhibits both anti-nociceptive and anxiolytic effects *in vivo* without evoking other symptoms associated with cannabinoid-like compounds. Thus, URB597 may serve as a lead compound for the development of new analgesic and anxiolytic drugs.

### References

1. Cravatt, B.F., Giang, D.K., Mayfield, S.P., *et al.* Molecular characterization of an enzyme that degrades neuromodulatory fatty-acid amides. *Nature* **384**, 83-87 (1996).
2. Kathuria, S., Gaetani, S., Fegley, D., *et al.* Modulation of anxiety through blockade of anandamide hydrolysis. *Nature Med.* **1(9)**, 76-81 (2003).
3. Cravatt, B.F., Demarest, K., Patricelli, M.P., *et al.* Supersensitivity to anandamide and enhanced endogenous cannabinoid signaling in mice lacking fatty acid amide hydrolase. *Proc. Natl. Acad. Sci. USA* **98(16)**, 9371-9376 (2001).

### Related Products

URB937 - Item No. 10674 • Methyl α-Linolenyl Fluorophosphonate - Item No. 70662 • Methyl γ-Linolenyl Fluorophosphonate - Item No. 70664 • Methyl Nonadecadienyl Fluorophosphonate - Item No. 70665 • CAY10400 - Item No. 71650

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

### MATERIAL SAFETY DATA

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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