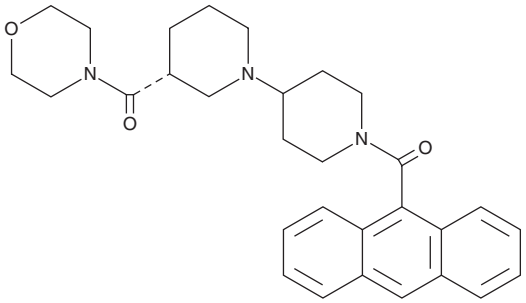
PRODUCT INFORMATION

CP 640,186

Item No. 17691

CAS Registry No.:	591778-68-6
Formal Name:	[(3R)-1'-(9-anthracenylcarbonyl) [1,4'-bipiperidin]-3-yl]-4-morpholinyl-methanone
Synonym:	ACC Inhibitor IV
MF:	$C_{30}H_{35}N_3O_3$
FW:	485.6
Purity:	≥95%
UV/Vis.:	λ_{max}: 254 nm
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

CP 640,186 is supplied as a crystalline solid. A stock solution may be made by dissolving the CP 640,186 in the solvent of choice, which should be purged with an inert gas. CP 640,186 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of CP 640,186 in these solvents is approximately 30 mg/ml.

Further dilutions of the stock 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. Organic solvent-free aqueous solutions of CP 640,186 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of CP 640,186 in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Acetyl-CoA carboxylase (ACC) is a key enzyme of fatty acid metabolism that enables the synthesis of malonyl-CoA, a precursor for fatty acids. CP 640,186 is an isozyme-nonselective ACC inhibitor with IC_{50} values of 53 and 61 nM for rat liver ACC1 and rat skeletal muscle ACC2, respectively.[1] It has been shown to lower malonyl-CoA levels and to inhibit hepatic fatty acid and triglyceride synthesis both *in vitro* and *in vivo*.[1] CP 640,186 can also stimulate muscle fatty acid oxidation (EC_{50} = 1.3 µM in rat epitrochlearis muscle strips) and lower whole body respiratory quotient in rats (ED_{50} = ~30 mg/kg).[1]

Reference

1. Harwood, H.J., Jr., Petras, S.F., Shelly, L.D., *et al.* Isozyme-nonselective N-substituted bipiperidylcarboxamide acetyl-CoA carboxylase inhibitors reduce tissue malonyl-CoA concentrations, inhibit fatty acid synthesis, and increase fatty acid oxidation in cultured cells and in experimental animals. *J. Biol. Chem.* **278(39)**, 37099-37111 (2016).

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