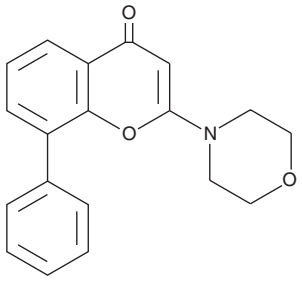
PRODUCT INFORMATION

LY294002

Item No. 70920

CAS Registry No.:	154447-36-6
Formal Name:	2-(4-morpholinyl)-8-phenyl-4H-1-benzopyran-4-one
MF:	$C_{19}H_{17}NO_3$
FW:	307.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 223, 302 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Melting Point:	182-184°C



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

LY294002 is supplied as a crystalline solid. A stock solution may be made by dissolving the LY294002 the solvent of choice, which should be purged with an inert gas. LY294002 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of LY294002 in these solvents is approximately 16.5, 36, and 25 mg/ml, respectively.

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 LY294002 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of LY294002 in PBS (pH 7.2), acidic PBS, and basic PBS is approximately 0.05 µg/ml. For maximum solubility in aqueous buffers, LY294002 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. LY294002 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

LY294002 is a phosphatidylinositol 3-kinase (PI3K) inhibitor. PI3K is an enzyme that phosphorylates the D-3 position of the inositol ring in phosphoinositides, resulting in the formation of PI(3)P, PI(3,4)P_2, and PI(3,4,5)P_3. LY294002 is a selective PI3K inhibitor with a 2.7-fold greater potency than quercetin.[1] LY294002 inhibits purified PI3K with an IC_{50} of 1.4 µM, but does not inhibit PI4K, EGF receptor, PDGF receptor, insulin receptor, c-src, MAP kinase, S6 kinase, diacylglycerol kinase, protein kinase A, protein kinase C, and ATPase.[1] LY294002 was shown to completely abolish PI3K activity in fMet-Leu-Phe-stimulated human neutrophils, as well as, inhibit proliferation of smooth muscle cells in cultured rabbit aortic segments.[1]

Reference

1. Vlahos, C.J., Matter, W.F., Hui, K.Y., *et al.* A specific inhibitor of phosphatidylinositol 3-kinase, 2-(4-morpholinyl)-8-phenyl-4H-1-benzopyran-4-one (LY294002). *J. Biol. Chem.* **269**, 5241-5248 (1994).

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