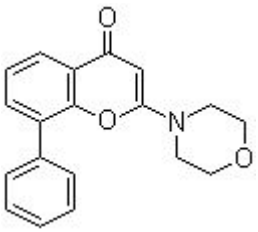
Product Introduction

LY294002

LY294002 is the first synthetic molecule known to inhibit **PI3Kα/δ/β** with **IC50** of 0.5 μM/0.57 μM/0.97 μM, respectively; more stable in solution than Wortmannin, and also blocks autophagosome formation.

Technical Data:

Molecular Weight (MW):	307.34	
Formula:	$C_{19}H_{17}NO_3$	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 36 mg/mL	
	Water <1 mg/mL	
	Ethanol 21 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	154447-36-6	

Biological Activity

LY294002 inactivates Akt/PKB, consequently inhibiting cell proliferation and inducing apoptosis. LY294002 demonstrates a remarkable growth-inhibitory and apoptosis-inducing effect in these colon cancer cell lines, with decreased expression of phosphorylated Akt (Ser473). [2]LY294002 induces marked nuclear pyknosis and diminished cytoplasmic volume in the tumor cells. Thus, LY294002 markedly inhibits ovarian cancer cell proliferation in vitro. LY294002 induces specific G1 arrest in cell growth, leading to almost complete inhibition of melanoma cell proliferation and partial inhibition of MG-63 (osteosarcoma cell line)

proliferation. The effect of LY294002 on cell cycle progression may provide insights into a possible link between the PI3K activation pathway and cancer cell cycle regulation. [3]

LY294002 also results in suppression of tumor growth and induction of apoptosis, especially in the LoVo tumors, and therefore shows remarkable effectiveness in the mouse peritonitis carcinomatosa model. [2] LY294002 significantly inhibits growth and ascites formation of ovarian carcinoma. [3]

References

[1] Chaussade C, et al. Biochem J, 2007, 404(3), 449-58.
[2] Semba S, et al. Clin Cancer Res, 2002, 8(6), 1957-63.
[3] Hu L, et al. Clin Cancer Res, 2000, 6(3), 880-6.
[4] Gharbi SI, et al. Biochem J, 2007, 404(1), 15-21.

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