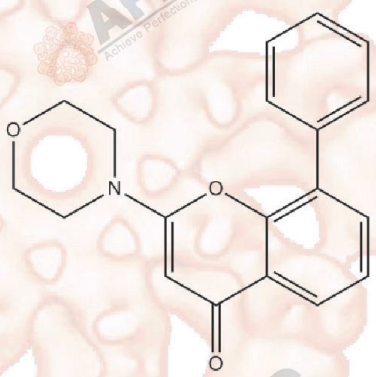
Product Data Sheet

LY 294002

Cat. No.:	A8250
CAS No.:	154447-36-6
Formula:	C19H17NO3
M.Wt:	307.34
Synonyms:	
Target:	PI3K/Akt/mTOR Signaling
Pathway:	PI3K
Storage:	Store at -20°C



Solvent & Solubility

In Vitro

insoluble in H2O; ⩾13.55 mg/mL in EtOH; ⩾15.37 mg/mL in DMSO

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	3.2537 mL	16.2686 mL	32.5373 mL
5 mM	0.6507 mL	3.2537 mL	6.5075 mL
10 mM	0.3254 mL	1.6269 mL	3.2537 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Potent PI3K inhibitor
IC_{50} & Target	0.5 μM (p110α), 0.57 μM (p110δ), 0.97 μM (p110β)

In Vitro

Cell Viability Assay

Cell Line:	OVCAR-3 cells
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.
Reacting conditions:	10 μM, 24 hours

	Applications:	After 24 h of treatment, the number of cells in 1, 5, and 10 μM LY294002-treated wells was reduced by 27, 56, and 75%, respectively, compared to the control group. LY294002 (1–10 μM) markedly inhibited cell proliferation. When the cells were treated with 10 μM LY294002 for 24 h, the effects appeared toxic. Cellularity was decreased, and the cell clusters appeared shrunken with poor cellular cohesion. Cells had hyperchromatic, pyknotic nuclei, and the amount of cytoplasm was decreased. LY294002 induced nuclear pyknosis and diminished cytoplasmic volume, which was clearly demonstrated in the 5 μM-treated wells.
In Vivo	**Animal experiment**	
	Animal models:	Athymic immunodeficient mice injected with OVCAR-3 cells
	Dosage form:	Intraperitoneal injection, 100 mg/kg body weight, daily for 3 weeks
	Applications:	At postmortem examination, tumors were found on the surface of the peritoneum, intestines, and uterus in both treatment and control groups. However, in the control group, tumors were also found on the diaphragm and in the hilus of the liver. LY294002 induced pyknosis and nuclear condensation, as well as reduced cytoplasmic volume in the tumor cells. Some nuclei separated from the cytoplasm. Abdominal circumference (7.2 ± 2 cm) significantly increased in the control group compared to the LY294002-treated group (6.35 ± 0.42 cm). Body weight increased in both groups for the first week after inoculation. In the control group, body weight continued to increase, whereas there was no significant change in body weight after treatment with LY294002.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Guo LT, Wang SQ, et al.
"Baicalin ameliorates neuroinflammation-induced depressive-like behavior through inhibition of toll-like receptor 4 expression via the PI3K/AKT/FoxO1 pathway." J Neuroinflammation. 2019 May 8;16(1):95.PMID:31068207

2. Liu J, Li J, et al. "H(2)S attenuates sepsis-induced cardiac dysfunction via a PI3K/Akt-dependent mechanism." Exp Ther Med. 2019 May;17(5):4064-4072.PMID:31007743

3. Huang SZ, Wei MN, et al. "Targeting TF-AKT/ERK-EGFR Pathway Suppresses the Growth of Hepatocellular Carcinoma." Front Oncol. 2019 Mar 15;9:150.PMID:30931258

4. Zheng L, Guo Q, et al. "Transcriptional factor six2 promotes the competitive endogenous RNA network between CYP4Z1 and pseudogene CYP4Z2P responsible for maintaining the stemness of breast cancer cells." J Hematol Oncol. 2019 Mar 4;12(1):23.PMID:30832689

5. Gao L, Guo Q, et al. "MiR-873/PD-L1 axis regulates the stemness of breast cancer cells." EBioMedicine. 2019 Feb 22. pii: S2352-3964(19)30112-4.PMID:30803931

See more customer validations on www.apexbt.com.

References

[1] Hu L, Zaloudek C, Mills G B, et al. In vivo and in vitro ovarian carcinoma growth inhibition by a phosphatidylinositol 3-kinase inhibitor (LY294002). Clinical Cancer Research, 2000, 6(3): 880-886.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com