LY294002 is a phosphoinositide 3-kinase (PI3K) inhibitor that has a greater potency and selectivity than quercetin, the structure on which it is based. LY294002 inhibits PI3K ($IC_{50} = 1.4 \mu M$) and also shows activity against casein kinase 2 (CK2), but not PI4K, EGFR, PDGFR, MAPK, PKA, or PKC (Davies et al.; Vlahos et al.).

**Properties**

**Physical Appearance:** A crystalline solid

**Storage:** Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.

**Solubility:**
- DMSO ≤ 50 mM
- Absolute ethanol ≤ 50 mM
- PBS (pH 7.2) ≤ 160 µM

For example, to prepare a 10 mM stock solution in DMSO, resuspend 5 mg in 1.63 mL of fresh DMSO.

Prepare stock solution fresh before use. Stock solutions in DMSO or ethanol are stable for up to 6 months if stored at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

MAINTENANCE AND SELF-RENEWAL
- Suppresses proliferation and self-renewal of mouse embryonic stem (ES) cells (Lianguzova et al., Paling et al.).

DIFFERENTIATION
- Promotes differentiation to insulin-producing cells from mouse ES cells (Hori et al.).
- Inhibits myotube formation from myoblasts (Coolican et al., Jiang et al.).

References


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