

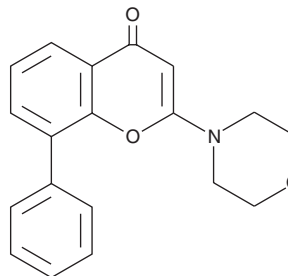
# PRODUCT INFORMATION



**LY294002**

Item No. 70920

**CAS Registry No.:** 154447-36-6  
**Formal Name:** 2-(4-morpholinyl)-8-phenyl-4H-1-benzopyran-4-one  
**Synonym:** NSC 697286  
**MF:** C<sub>19</sub>H<sub>17</sub>NO<sub>3</sub>  
**FW:** 307.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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 multi-kinase inhibitor.<sup>1</sup> It inhibits casein kinase 2 (CK2; IC<sub>50</sub> = 0.098 µM), the PI3K subunits p110α, p110β, p110δ, and p110γ (IC<sub>50</sub>s = 0.497, 0.554, 0.331, and 3.8 µM, respectively), and DNA protein kinase (DNA-PK; IC<sub>50</sub> = 6 µM), among other kinases, as well as CK1, GSK3α, and GSK3β by greater than 40% at 10 µM.<sup>1-3</sup> LY294002 (12.5, 25, and 50 µM) reduces viability of SGC-7901 human gastric cancer cells.<sup>4</sup> It induces apoptosis and autophagy in SGC-7901 cells when used at a concentration of 50 µM. LY294002 (2 ng/ml/kg) reduces tumor volume in DLD-1 and LoVo mouse xenograft models.<sup>5</sup> It also reduces aging-induced increases in the number of aging human vascular smooth muscle cells (VSMCs) positive for senescence-associated β-galactosidase (SA-β-gal) when used at a concentration of 20 µM in the 5<sup>th</sup> to 15<sup>th</sup> generations.<sup>6</sup>

## References

1. Gharbi, S.I., Zvelebil, M.J., Shuttleworth, S.J., *et al. Biochem. J.* **404**(1), 15-21 (2007).
2. Izzard, R.A., Jackson, S.P., and Smith, G.C. *Cancer Res.* **59**(11), 2581-2586 (1999).
3. Bain, J., Plater, L., Elliot, M., *et al. Biochem. J.* **408**(3), 297-315 (2007).
4. Xing, C., Zhu, B., Liu, H., *et al. Acta Biochim. Biophys. Sin. (Shanghai)* **40**(3), 194-201 (2008).
5. Semba, S., Itoh, N., Ito, M., *et al. Clin. Cancer Res.* **8**(6), 1957-1963 (2002).
6. Tan, P., Wang, Y.-J., Li, S., *et al. Mol. Cell Biochem.* **422**(1-2), 1-10 (2016).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

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