

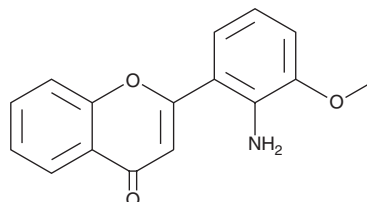
PRODUCT INFORMATION



PD 98059

Item No. 10006726

CAS Registry No.: 167869-21-8
Formal Name: 2-(2-amino-3-methoxyphenyl)-4H-1-benzopyran-4-one
Synonym: NSC 679828
MF: C₁₆H₁₃NO₃
FW: 267.3
Purity: ≥98%
UV/Vis.: λ_{max}: 239, 300, 375 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

PD 98059 is supplied as a crystalline solid. A stock solution may be made by dissolving the PD 98059 in the solvent of choice. PD 98059 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of PD 98059 in ethanol is approximately 0.5 mg/ml and approximately 20 mg/ml in DMSO and DMF.

PD 98059 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PD 98059 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PD 98059 has a solubility of approximately 0.25 mg/ml in a 1:9 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PD 98059 is a noncompetitive inhibitor of the MAPK pathway.^{1,2} It prevents the activation of MEK by Raf or MEK kinase (a MAPKKK) with an IC₅₀ value of 2-7 μM but does not inhibit Raf-activated MAPKK1.³ It inhibits Raf activation of MAPKK2 with an IC₅₀ value of 50 μM.³ PD 98059 also phosphorylates and activates AMP-activated protein kinase (AMPK) in a dose-dependent manner (EC₅₀ = 35 μM in HEK293 cells).⁴ It increases the ratios of ADP to ATP and AMP to ATP and increases phosphorylation of the AMPK target acetyl-CoA carboxylase (ACC).

References

1. Davies, S.P., Reddy, H., Caivano, M., *et al.* Specificity and mechanism of action of some commonly used protein kinase inhibitors. *Biochem. J.* **351(1)**, 95-105 (2000).
2. Dudley, D.T., Pang, L., Decker, S.J., *et al.* A synthetic inhibitor of the mitogen-activated protein kinase cascade. *Proc. Natl. Acad. Sci. U.S.A.* **92(17)**, 7686-7689 (1995).
3. Alessi, D.R., Cuenda, A., Cohen, P., *et al.* PD 098059 is a specific inhibitor of the activation of mitogen-activated protein kinase kinase *in vitro* and *in vivo*. *J. Biol. Chem.* **270(46)**, 27489-27494 (1995).
4. Dokladda, K., Green, K.A., Pan, D.A., *et al.* PD98059 and U0126 activate AMP-activated protein kinase by increasing the cellular AMP:ATP ratio and not via inhibition of the MAP kinase pathway. *FEBS Lett.* **579(1)**, 236-240 (2005).

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.

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