PD98059

MEK1 and MEK2 Inhibitor

Catalog # tlrl-pd98

For research use only

Version # 15K04-MM

PRODUCT INFORMATION

Content:

• 10 mg PD98059

Storage and stability:

- PD98059 is provided as a translucent film and shipped at room temperature. Store at -20 °C. Lyophilized product is stable for 1 year at -20 °C.

- Upon resuspension, prepare aliquots of PD98059 and store at -20 °C. Avoid repeated freeze-thaw cycles. Resuspended product is stable for 3 months at -20 °C when properly stored.

Quality control:

- Purity: ≥99% (UHPLC)

- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION

PD98059 is a potent and selective inhibitor of MAP kinase kinases (MAPKK), MEK1 and MEK2[1]. It binds to the inactive form of MAPKK and prevents activation by upstream activators such as c-Raf. Thus, PD98059 can be used to study the role of MAPKK signaling in different immune responses. For example, PD98059 can inhibit the lipopolysaccharide (LPS)-induced production of cytokines such as TNF-α[2, 3].

CHEMICAL PROPERTIES

CAS number: 167869-21-8

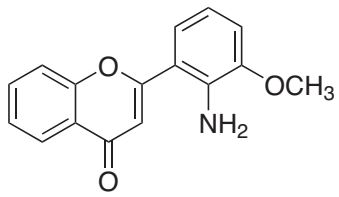
Synonym: 2'-Amino-3'-methoxyflavone

Formula: $C_{16}H_{13}NO_3$

Molecular weight: 267.28

Solubility: DMSO (6.5 mg/ml)

Structure:



METHODS

Preparation of sterile stock solution (25 mM)

1. Add 1.5 ml DMSO to 10 mg of PD98059.
2. Vortex until complete solubilization.
3. Prepare aliquots and store at -20 °C. Once PD98059 is solubilized, dilutions can be prepared using aqueous buffers.

Working concentration: 10-100 µM for cell culture assays

PROTOCOLS

For reference only; as described in the indicated publications.

Cell Culture Assay[4]

Cells: Human peripheral blood mononuclear cells (PBMC)
Working concentration: 20 µM
Incubation time: 45 min
Methods: ELISA to measure cytokine levels and Western blot

Cell Culture Assay[4]

Cells: PC-12 rat pheochromocytoma cells
Working concentration: 10-100 µM
Incubation time: 30 min
Methods: MAP kinase activity assays and Western blot

1. Alessi DR. *et al.*, 1995. PD 098059 is a specific inhibitor of the activation of mitogen-activated protein kinase kinase in vitro and in vivo. J. Biol. Chem. 270, 27489-94. **2. Reiling N. *et al.*, 2001.** Mycobacteria-induced TNF-alpha and IL-10 formation by human macrophages is differentially regulated at the level of mitogen-activated protein kinase activity. J Immunol. 167:3339-45. **3. Guha M. *et al.*, 2001.** Lipopolysaccharide activation of the MEK-ERK1/2 pathway in human monocytic cells mediates tissue factor and tumor necrosis factor α expression by inducing Elk-1 phosphorylation and Egr-1 expression. Blood. 98(5):1429-39. **4. Martin M. *et al.*, 2003.** Role of innate immune factors in the adjuvant activity of monophosphoryl lipid A. Infect Immun. 71:2498-507. **5. Pang L. et al., 1995.** Inhibition of MAP kinase kinase blocks the differentiation of PC-12 cells induced by nerve growth factor. J Biol Chem. 270(23):13585-8.

RELATED PRODUCTS

Product	Description	Cat. Code
AZD6244	MEK1/2 Inhibitor	inh-ad62
LPS-EB Ultrapure	TLR4 Ligand	tlrl-3pelps
PD0325901	MEK Inhibitor	inh-pd32
SB202190	MAP Kinase Inhibitor	tlrl-sb90

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