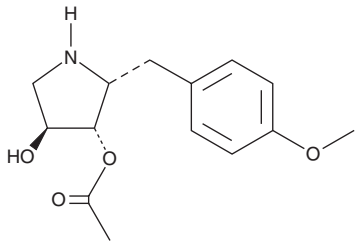
PRODUCT INFORMATION

Anisomycin

Item No. 11308

CAS Registry No.:	22862-76-6
Formal Name:	2-[(4-methoxyphenyl)methyl]-3-acetate-(2R,3S,4S)-3,4-pyrrolidinediol
Synonyms:	Flagecidin, NSC 76712, Wuningmeisu C
MF:	$C_{14}H_{19}NO_4$
FW:	265.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 225, 277, 284 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Anisomycin is supplied as a crystalline solid. A stock solution may be made by dissolving the anisomycin in the solvent of choice, which should be purged with an inert gas. Anisomycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of anisomycin in ethanol is approximately 1 mg/ml and approximately 20 mg/ml in DMSO and DMF.

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 anisomycin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of anisomycin in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Anisomycin is a pyrrolidine antibiotic produced by *S. griseolus* that inhibits protein and DNA synthesis.[1] It activates stress-activated protein kinase, MAP kinase, and other signal transduction pathways. At 30 mg/kg, anisomycin displays immunosuppressive activity superior to that of Cyclosporine A, blocking T cell proliferation in skin-transplanted mice.[2] Through a caspase-8-dependent pathway, anisomycin acts as a potent and specific anoikis sensitizer of malignant epithelial cells resistant to apoptosis upon detachment from the ECM, preventing distal tumor formation in a mouse model of prostate cancer metastases.[3]

References

1. Grollman, A.P. Inhibitors of protein biosynthesis. *J. Biol. Chem.* **242(13)**, 3226-3233 (1967).
2. Xing, F., Yu, Z., Liu, J., *et al.* Anisomycin inhibits the behaviors of T cells and the allogeneic skin transplantation in mice. *J. Immunother.* **31(9)**, 858-870 (2008).
3. Mawji, I.A., Simpson, C.D., Gronda, M., *et al.* A chemical screen identifies anisomycin as an anoikis sensitizer that functions by decreasing FLIP protein synthesis. *Cancer Res.* **67(17)**, 8307-8315 (2007).

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