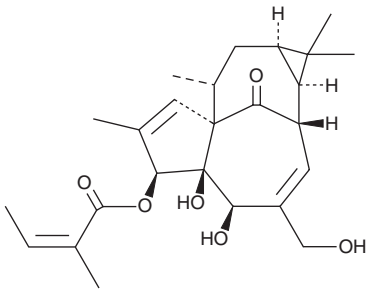
PRODUCT INFORMATION

Ingenol-3-angelate

Item No. 16207

CAS Registry No.:	75567-37-2
Formal Name:	2Z-methyl-2-butenoic acid, (1aR,2S,5R,5aS,6S,8aS,9R,10aR)-1a,2,5,5a,6,9,10,10a-octahydro-5,5a-dihydroxy-4-(hydroxymethyl)-1,1,7,9-tetramethyl-11-oxo-1H-2,8a-methanocyclopenta[a]cyclopropa[e]cyclodecen-6-yl ester
Synonyms:	Ingenol Mebutate, 3-Ingenyl Angelate, PEP005, Picato®
MF:	$C_{25}H_{34}O_6$
FW:	430.5
Purity:	≥95%
UV/Vis.:	λ_{max}: 210 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

Ingenol-3-angelate is supplied as a crystalline solid. A stock solution may be made by dissolving the ingenol-3-angelate in the solvent of choice, which should be purged with an inert gas. Ingenol-3-angelate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ingenol-3-angelate in ethanol and DMF is approximately 10 mg/ml and approximately 5 mg/ml in DMSO.

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 ingenol-3-angelate can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ingenol-3-angelate 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

Ingenol-3-angelate is a hydrophobic diterpene ester that can be isolated from the euphorb *E. peplus*. It rapidly induces cell death in proliferating keratinocytes through plasma membrane and mitochondrial disruption, although it can also initiate apoptosis in some cancer cell lines (LD_{90} = ~190 µM).[1] Secondarily, ingenol-3-angelate causes inflammation due, at least in part, to activation of PKC, leading to antibody-dependent cellular cytotoxicity.[2-4] These actions have relevance in diminishing actinic keratosis and, possibly, other cancers of the skin.[5,6]

References

1. Ogbourne, S.M., Suhrbier, A., Jones, B., *et al. Cancer Res.* **64(8)**, 2833-2839 (2004).
2. Gillespie, S.K., Zhang, X.D., and Hersey, P. *Mol. Cancer Ther.* **3(12)**, 1651-1658 (2004).
3. Li, L., Shukla, S., Lee, A., *et al. Cancer Res.* **70(11)**, 4509-4519 (2010).
4. Hasler, C.M., Acs, G., and Blumberg, P.M. *Cancer Res.* **52(1)**, 202-208 (1992).
5. Lebwohl, M., Swanson, N., Anderson, L.L., *et al. N. Engl. J. Med.* **366(11)**, 1010-1019 (2012).
6. Micali, G., Lacarrubba, F., Nasca, M.R., *et al.* Part I. Pharmacology. *J. Am. Acad. Dermatol.* **70(6)**, 965. e1-956.e12 (2014).

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