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#4174
Store at -20C

TPA (12-O-Tetradecanoylphorbol-13-Acetate)

1 mg

For Research Use Only. Not for Use in Diagnostic Procedures.

Background	TPA (12-O-tetradecanoylphorbol-13-acetate) / PMA (phorbol-12-myristate-13-acetate) is the most commonly used phorbol ester. It binds and activates protein kinase C, causing a wide range of effects in cells and tissues (1,2). TPA has been demonstrated to be a potent tumor promoter in mouse skin (3). Conversely, it has been shown to be an effective cancer therapeutic agent in myelocytic leukemia patients, and has been indicated as a potential colorectal cancer therapeutic (4-5). TPA has also been shown to increase white blood cell and neutrophil counts in solid tumor cancer patients (6).
Molecular Formula	C ₃₆ H ₅₆ O ₈
Molecular Weight	616.83 g/mol
Purity	>99.5%
CAS	16561-29-8
Solubility	Soluble in DMSO and EtOH at 25mg/ml.
Storage	Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.
Directions for Use	TPA is supplied as a 1 mg powder. Store at -20C. Before use, dissolve powder in 1 ml DMSO to yield a 1.6 mM stock solution. For working concentration of 200 µM, add 125 µl stock solution to 875 µl DMSO. Treat cells with 200 nM TPA for 20-30 minutes. TPA is soluble in DMSO and ethanol.
Background References	<ol style="list-style-type: none"> 1. Rebois, R.V. and Patel, J. (1985) <i>J Biol Chem</i> 260, 8026-31. 2. Blumberg, P.M. (1980) <i>Crit Rev Toxicol</i> 8, 153-97. 3. Fürstenberger, G. et al. (1981) <i>Proc Natl Acad Sci U S A</i> 78, 7722-6. 4. Han, Z.T. et al. (1998) <i>Proc Natl Acad Sci U S A</i> 95, 5357-61. 5. Lee, H.W. et al. (2002) <i>J Biol Chem</i> 277, 32624-31. 6. Han, Z.T. et al. (1998) <i>Proc Natl Acad Sci U S A</i> 95, 5362-5.

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