Datasheet

**Product overview**

<table>
<thead>
<tr>
<th><strong>Name</strong></th>
<th>Phorbol 12-myristate 13-acetate (PMA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cat No</strong></td>
<td>HB0502</td>
</tr>
<tr>
<td><strong>Short description</strong></td>
<td>PKC activator</td>
</tr>
</tbody>
</table>

**Biological description**

Phorbol 12-myristate 13-acetate (PMA) is a protein kinase C (PKC) activator which associates to the C1 domain. It is structurally analogous to diacylglycerol.

PMA is a potent tumor promoter.

PMA induces ERK1/2 activation and is frequently used with ionomycin to stimulate intracellular cytokine production in T-cells.

PMA also facilitates long-term potentiation in hippocampal neurons via δ and ε PKC binding sites.

**Alternative names**

PMA; TPA

**Biological action**

Activator

**Purity**

>99%

**Customer comments**

*Shipping at RT but it works properly. cheap and quick delivery.* **Verified customer, Seoul National University**

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**Images**

![Scientist APPROVED](image-url)
**Properties**

**Chemical name**
(1aR,1bS,4aR,7aS,7bS,8R,9R,9aS)-9a-(Acetyloxy)-1a,1b,4,4a,5,7a,7b,8,9,9a-decahydro-4a,7b-dihydroxy-3-(hydroxymethyl)-1,1,6,8-tetramethyl-5-oxo-1H-cyclopropa[3,4]benz[1,2-e]azulen-9-yl tetradecanoate

**Molecular Weight**
616.83

**Chemical structure**

![Chemical structure image]

**Molecular Formula**
C₃₆H₅₆O₈

**CAS Number**
16561-29-8

**PubChem identifier**
27924

**SMILES**
CC(CCCCCCCCCCC(=O)O)C[@H][C@H][C@H][C=C(C)(C@)3][C@H][2C=C(C3=O)C]O)[C@H]4[C@@]1(C4(C)C)OC(=O)C)O)

**InChI**
InChI=1S/C36H56O8/c1-7-8-9-10-11-12-13-14-15-16-17-18-29(39)43-32-24(3)35(42)27(30-33(5,6)36(30,32)44-25(4)38)20-26(22-37)21-34(41)28(35)19-23(2)31(34)40/h19-20,24,27-28,30,32,37,41-42H,7-18,21-22H2,1-6H3/t24-,27+,28-,30-,32-,34-,35-,36-/m1/s1

**InChiKey**
PHEDXBVPIONUQT-RGYGYFBISA-N

**MDL number**
MFCD00036736

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**Storing and Using Your Product**

**Storage instructions**
-20°C (protect from light)

**Solubility overview**
Soluble in DMSO (100mM)

**Important**
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

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**References for Phorbol 12-myristate 13-acetate (PMA)**

**Phorbol 12-myristate 13-acetate inhibits P-glycoprotein-mediated efflux of digoxin in MDCKII-MDR1 and Caco-2 cell monolayer models.**

**PubMedID:**
24362330

**Phorbol ester phorbol-12-myristate-13-acetate promotes anchorage-independent growth and survival of melanomas through MEK-independent activation of ERK1/2.**

**PubMedID:**
15721302

**Involvement of PKC alpha in PMA-induced facilitation of exocytosis and vesicle fusion in PC12 cells.**

**PubMedID:**
19250646
Phorbol 12-Myristate 13-Acetate Enhances Long-Term Potentiation in the Hippocampus through Activation of Protein Kinase Cδ and ε.


PubMedID: 23440225