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## TPA (Phorbol-12-Myristate-13-Acetate)

1 ml

**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).

### Description

TPA (12-O-tetradecanoylphorbol-13-acetate) / PMA (phorbol-12-myristate-13-acetate) is soluble in DMSO and ethanol. DMSO solutions can be stored at -20°C, in the absence of light, for at least six months. A 200 nM TPA treatment is standard to induce signaling.

### Storage

Store lyophilized or in solution at -20°C. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency.

### Directions for Use

TPA is supplied as a 200 µM stock in DMSO. For standard 200 nM treatment, dilute 1000X.

### Background References

1. Rebois, R.V. and Patel, J. (1985) *J Biol Chem* 260, 8026-31.
2. Blumberg, P.M. (1980) *Crit Rev Toxicol* 8, 153-97.
3. Fürstenberger, G. et al. (1981) *Proc Natl Acad Sci U S A* 78, 7722-6.
4. Han, Z.T. et al. (1998) *Proc Natl Acad Sci U S A* 95, 5357-61.
5. Lee, H.W. et al. (2002) *J Biol Chem* 277, 32624-31.
6. Han, Z.T. et al. (1998) *Proc Natl Acad Sci U S A* 95, 5362-5.

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