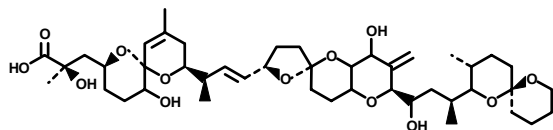


PRODUCT DATA SHEET

Product: Okadaic Acid (Free Acid)

Cat. No: MT-100 (100 µg)

Chemical Structure:



Formula:

C₄₄H₆₈O₁₃

Molecular Weight: 804

Description:

Okadaic Acid is a naturally occurring bioactive polyether compound condensed from a C-38 fatty acid. Okadaic Acid is active in mice i.p. at 200ug/kg, and is an extremely potent inhibitor of protein phosphatase (PP) 1 and 2A. PP2B is less sensitive and PP2C is not inhibited by this compound. Okadaic Acid is a potent non-TPA-type tumor promoter and vasodilator and induces hyperphosphorylation of the p53 oncoprotein. It is active in both plant and mammalian systems.

Format:

Okadaic Acid is supplied in pure crystalline form in vials sealed in N₂ gas.

Production:

Isolated from marine dinoflagellates.

Purification:

>99% by HPLC

Inhibitory Data:

	IC ₅₀
Protein phosphatase-1	60-200 nM
Protein phosphatase-2A	0.5-1.0 nM
Protein phosphatase-2B	5-10 µM
Protein phosphatase-2C	>10 µM

Solubility:

Okadaic acid is soluble in acetone, methanol, DMF or DMSO. **WARNING!** Highly toxic! Handle with care.

Storage and Stability:

Unopened vials stable for 1 year or more when stored at -20°C. Methanol solutions stored at -20°C stable for 6 months to 1 year.

References:

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- Suganuma, M. et al. (1988). Okadaic acid: an additional non-phorbol-12-tetradecanoate-13-acetate-type tumor promoter. *Proc. Natl. Acad. Sci. USA*, 85 (6): 1768-71.
- Ashizawa, N. et al. (1989). Relaxing action of okadaic acid, a black sponge toxin on the arterial smooth muscle. *Biochem. Biophys. Res. Commun.* 162 (3): 971-6.
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- Herschman, H.R. et al. (1989). The tumor promoters 12-O-tetradecanoylphorbol-13-acetate (TPA) and okadaic acid differ in toxicity, mitogenic activity and induction of gene expression. *Carcinogenesis* 10 (8): 1495-8.
- Karaki, H. et al. (1989). Inhibitory effect of a toxin okadaic acid, isolated from the black sponge on smooth muscle and platelets. *Br. J. Pharmacol* 98 (2): 590-6.
- Obara, K. et al. (1989). Okadaic acid, a phosphatase inhibitor, produces a Ca²⁺ and calmodulin-independent contraction of smooth muscle. *Pflüger. Arch.* 414 (2): 134-8.
- Yu, J.S. and DeYang, S. (1994). Okadaic acid, a serine/threonine phosphatase inhibitor, induces tyrosine dephosphorylation/inactivation of protein kinase FA/GSK-3α in A431 cells. *J. of Biol. Chem.* 269 (20): 14341-4.
- Zhang, W. et al. (1994). Hyperphosphorylation of p53 induced by okadaic acid attenuates its transcriptional activation function. *Cancer Res.* 54: 4448-53.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.