

## Okadaic acid

产品编号: D50453

CAS: 155751-72-7

保存条件: Store at -20°C stable for 24 months.

产品介绍: **基本信息:**

CAS: 155751-72-7

分子式: C<sub>44</sub>H<sub>67</sub>KO<sub>13</sub>

分子量: MDL: MFCD00214356

纯度: ≥90% (HPLC), powder

溶解性: 溶于乙醇 (5 ug/50 ul = 124.2 μM)

### 产品简介:

冈田酸 (Okadaic acid) 是一种海洋毒素, 是蛋白质磷酸酶 (PP) 的抑制剂, 包括 PP1 (IC<sub>50</sub>=15-50 nM)、PP2A (IC<sub>50</sub>=0.1-0.3 nM)、PP3 (IC<sub>50</sub>=3.7-4 nM)、PP4 (IC<sub>50</sub>=0.1 nM) 和 PP5 (IC<sub>50</sub>=3.5 nM), 其中对 PP2A 的亲合力最显著, 但不抑制 PP2C。Okadaic acid 通过抑制 PP 增加了多种蛋白的磷酸化, 并具有肿瘤启动子的作用。Okadaic acid 诱导 tau 蛋白磷酸化。

作用靶点: Phosphatase; Apoptosis;

作用通路: Metabolic Enzyme/Protease; Apoptosis

### 体外研究:

Okadaic acid (0-100 nM; 24 h or 48 h) inhibits the proliferation of AGS, MNK-45, Caco 2 cells[3].

Okadaic acid (10 nM; 8 hours) increases Drp1 phosphorylation and mitochondrial fission in rat cortical neurons[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[3]

### 体内研究:

Okadaic acid (100 μM; injected unilaterally to the lateral amygdala) induces Tau phosphorylation and protein aggregation in anatomically distinct brain regions 24 h post-injection[5]

### REFERENCES:

[1]. Kleppe R, et al. Cell Death Inducing Microbial Protein Phosphatase Inhibitors--

Mechanisms of Action. Mar Drugs. 2015 Oct 22;13(10):6505-20.

[2]. Valdiglesias V, et al. Okadaic acid: more than a diarrheic toxin. Mar Drugs. 2013 Oct 31;11(11):4328-49.

[3]. del Campo M, et al. Okadaic acid toxin at sublethal dose produced cell proliferation in gastric and colon epithelial cell lines. Mar Drugs. 2013;11(12):4751-4760.

[4]. Cho MH, et al. Increased phosphorylation of dynamin-related protein 1 and mitochondrial fission in okadaic acid-treated neurons. Brain Res. 2012 May 15;1454:100-10.

[5]. Baker S, et al. A local insult of okadaic acid in wild-type mice induces tau phosphorylation and protein aggregation in anatomically distinct brain regions. Acta Neuropathol Commun. 2016;4:32.