

## Phenylarsine oxide

Product Number **P3075**

Store at Room Temperature

### Product Description

CAS Number: 637-03-6

Molecular Formula:  $C_6H_5AsO$

Molecular Weight: 168.0

Synonyms: Oxophenylarsine, PAO, Arzene

Phenylarsine oxide is a tyrosine phosphatase inhibitor, which does not affect tyrosine kinase activity.<sup>1</sup> It reacts with vicinal -SH groups<sup>2</sup> and has also been proposed to react with vicinal -SH/-OH and -SH/-CO<sub>2</sub>H groups.<sup>3</sup> Phenylarsine oxide has been shown to affect human endothelial cell permeability through induction of proteolysis of occludin.<sup>4</sup> It can also elevate intracellular calcium levels in thymocytes and inhibit Ca<sup>2+</sup>-dependent ATPase activity in both thymocytes and sarcoplasmic reticulum from skeletal muscle.<sup>5</sup> In addition, phenylarsine oxide has been shown to inhibit internalization of cell surface receptors in studies on mammalian brain.<sup>6</sup>

A procedure for the use of phenylarsine oxide in affinity chromatography for protein identification has been published.<sup>7</sup>

### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

### Preparation Instructions

This product is soluble in DMSO (50 mg/ml), applying heat as needed. It also has been reported as soluble in 50:50 DMSO:1 M HCl (3.0 mg/ml).

### References

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2. Jenkins, S. M., and Johnson, G. V., Modulation of Tau Phosphorylation within its Microtubule-binding Domain by Cellular Thiols. *J. Neurochem.*, **73(5)**, 1843-1850 (1999).
3. Douen, A. G., and Jones, M. N., Phenylarsine Oxide and the Mechanism of Insulin-stimulated Sugar Transport. *Biofactors*, **2(3)**, 153-161 (1990).
4. Wachtel, M., et al., Occludin Proteolysis and Increased Permeability in Endothelial Cells through Tyrosine Phosphatase Inhibition. *J. Cell Sci.* **112(Pt. 23)**, 4347-4356 (1999).
5. Hmadcha, A., et al., Phenylarsine Oxide Increases Intracellular Calcium Mobility and Inhibits Ca<sup>2+</sup>-dependent ATPase Activity in Thymocytes. *Mol. Genet. Metab.*, **68(3)**, 363-370 (1999).
6. Boudin, H., et al., Somatostatin-induced Regulation of SST(2A) Receptor Expression And Cell Surface Availability in Central Neurons: Role of Receptor Internalization. *J. Neurosci.*, **20(16)**, 5932-5939 (2000).
7. Bogumil, R., and Ullrich, V., Phenylarsine Oxide Affinity Chromatography to Identify Proteins Involved in Redox Regulation: Dithiol-Disulfide Equilibrium in Serine/Threonine Phosphatase Calcineurin. *Meth. Enzymol.*, **348**, 271-280 (2002).

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