# Calyculin A

## PRODUCT ANALYSIS SHEET

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| **Catalog Number:** | PHZ1044 |
| **Lot Number:** | See product label |
| **Quantity:** | 25 µg |
| **Appearance:** | White solid |
| **Molecular Formula:** | $C_{50}H_{81}N_4O_{15}P$ |
| **Molecular Weight:** | 1009.2 |
| **Purity:** | 98%, as assessed by TLC |
| **Summary:** | Calyculin A is a structurally unique marine toxin with potent and specific protein phosphatase inhibiting activity. This compound inhibits PP2A with similar potency to okadaic acid, but inhibits PP1 with a 10- to 100-fold greater potency. Some of the effects observed with this compound include: enhancement of intracellular protein phosphorylation in cultured human keratinocytes, stimulation of smooth muscle contraction, and inhibition of apoptosis. Calyculin A is also a potent tumor promoter. |
| **Biological Activity:** | PP2A: $IC_{50}$ = 0.5-1.0 nM<br>PP1: $IC_{50}$ = 0.005-0.01 nM |
| **Solubility:** | Soluble in DMSO, ethanol and DMF. |
| **Sterility:** | This product is not sterile. |
| **Storage:** | Store, as supplied, at –20°C. Upon solubilization, apportion into working aliquots and store at –20°C. Avoid repeated freeze/thaw cycles. Solutions are stable at –20°C for up to three months. |
| **Expiration Date:** | Expires one year from date of receipt when stored as instructed. |
| **Related Products:** | GSK-3β [$pS^9$] antibody, Cat. # 44-600G<br>GSK-3β [$pY^{216}$] antibody, Cat. # 44-604G |
| **References:** | Ishihara, H., et al. (1989) Calyculin A and okadaic acid: inhibitors of protein phosphatase activity. Biochem. Biophys. Res. Commun. 159(3):871-877.<br><br>Song, L., et al. (2002) Central role of glycogen synthase kinase-3beta in endoplasmic reticulum stress-induced caspase-3 activation. J. Biol. Chem. 277(47):44701-44708.<br><br>Kau, J.H., et al. (2002) Calyculin A sensitive protein phosphatase is required for *Bacillus anthracis* lethal toxin induced cytotoxicity. Curr. Microbiol. 44(2):106-111.<br><br>Tang, H., et al. (2001) Amino acid-induced translation of TOP mRNAs is fully dependent on phosphatidylinositol 3-kinase-mediated signaling, is partially inhibited by rapamycin, and is independent of S6K1 and rpS6 phosphorylation. Mol. Cell. Biol. 21(24):8671-8683. |
| **Caution:** | Avoid contact with eyes, skin, and mucous membranes. Wear protective clothing when handling this product. Not for human use. |

**This product is for research use only. Not for use in diagnostic procedures.**

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Manufactured under ISO 13485 Quality Standard

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