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Calyculin A

Store at -20°C
#9902

10 µg

For Research Use Only. Not for Use in Diagnostic Procedures.

Background

Calyculin A inhibits the activity of protein phosphatases PP1 and PP2A (1,2). Unlike Okadaic acid, which reduces PP2A activity but has little effect on PP1 activity, Calyculin A inhibits both phosphatases (1). Neither Calyculin A nor Okadaic acid inhibit acid or alkaline phosphatases or phospho-tyrosine protein phosphatases (2).

Description

Calyculin A is a more potent phosphatase inhibitor than Okadaic acid (2). As shown by Western blot, treatment of cells with 100 nM Calyculin A for 30 minutes induces threonine phosphorylation, detected by Phospho-Threonine-Polyclonal Antibody #9381. IC₅₀ values for inhibitory activity against PP1 are approximately 2 nM. IC₅₀ values for inhibitory activity against PP2A are approximately 0.5 -1.0 nM.

Molecular Formula

C₅₀H₈₁N₄O₁₅P

Molecular Weight

1009.17 g/mol

Purity

>98%

CAS

101932-71-2

Solubility

Soluble in DMSO at 50mM and EtOH at 1mg/ml.

Storage

Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, continue to store at -20°C and use within 1 month to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

Calyculin A is supplied as a lyophilized clear film. For 10 µM stock, reconstitute in 1 ml DMSO. Store in aliquots at -20°C in the dark. Treat cells with 50-100 nM calyculin A for 5-30 minutes. Store in aliquots tightly sealed (unopened) at -20°C in the dark. See MSDS.

This compound is sold only for use in extremely dilute solutions for biological research. No other use is intended and any other use involves substantial hazards. This compound should never be handled in powder or aerosol form or in any other form susceptible to uncontrolled release in the laboratory, even in very small quantities.

Background References

1. Resjö, S. et al. (1999) *Biochem J* 341 (Pt 3), 839-45.
2. Ishihara, H. et al. (1989) *Biochem Biophys Res Commun* 159, 871-7.

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