Revision 3

Store at -20C

#13055

PX-866

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Background

PX-866 is a potent derivative of wortmannin that irreversibly inhibits PI3 kinase (1). Research studies demonstrate that PX-866 elicits a more sustained inhibition of PI3K than wortmannin. While both chemicals inhibit Akt phosphorylation similarly at short time periods (1-2 hr), PX-866 also demonstrates inhibitory effects for extended time periods (24 hr) at lower doses than wortmannin. This difference may be attributed to wortmannin's short half-life of 10 minutes and the reduced cytotoxicity of PX-866 (2). PX-866 inhibits the PI3K pathway through down regulation of cyclin D1 protein, which is responsible for regulating cell cycle progression and autophagy induction (3). Additional research shows that PX-866 inhibits cell migration in cancer cell lines (2).

Molecular Formula

$C_{29}H_{35}NO_8$

Molecular Weight

525.59 g/mol

Purity

>99%

CAS

502632-66-8

Solubility

Soluble in DMSO and EtOH at 200mg/ml.

Storage

Store lyophilized or in solution at -20ºC, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

PX-866 is supplied as a lyophilized powder. For a 10mM stock, reconstitute the 1 mg in 190.26 µl DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 10 nM-1000 nM for 1-24 hours.

Background References

1. Ihle, N.T. et al. (2004) *Mol Cancer Ther* 3, 763-72.
2. Howes, A.L. et al. (2007) *Mol Cancer Ther* 6, 2505-14.
3. Koul, D. et al. (2010) *Neuro Oncol* 12, 559-69.

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