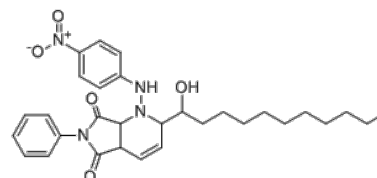


Product Name : A12B4C3
Cat. No. : PC-35266
CAS No. : 1005129-80-5
Molecular Formula : C₃₀H₃₈N₄O₅
Molecular Weight : 534.657
Target : DNA Repair Protein
Solubility : 10 mM in DMSO



Biological Activity

A12B4C3 is a potent, specific human polynucleotide kinase/phosphatase (**hPNKP**) inhibitor, inhibits hPNKP phosphatase activity with IC₅₀ of 60 nM.

A12B4C3 displayed no inhibition of two well-known eukaryotic protein phosphatases, calcineurin and protein phosphatase-1, or APTX, another human DNA 3'-phosphatase.

A12B4C3 enhanced the radiosensitivity of human A549 lung carcinoma and MDA-MB-231 breast adenocarcinoma cells, which was almost identical to the increased sensitivity resulting from shRNA-mediated depletion of hPNKP.

A12B4C3 sensitizes A549 human lung cancer cells to the topoisomerase I poison, camptothecin, but not the topoisomerase II poison, etoposide.

A12B4C3 also inhibits the repair of DNA single and double strand breaks following exposure of cells to ionizing radiation, but does not inhibit two other key strand-break repair enzymes, DNA polymerase beta or DNA ligase III.

References

Freschauf GK, et al. *Cancer Res.* 2009 Oct 1;69(19):7739-46.

Freschauf GK, et al. *J Biol Chem.* 2010 Jan 22;285(4):2351-60.

Zereshkian A, et al. *Nucl Med Biol.* 2014 May-Jun;41(5):377-83.

Caution: Product has not been fully validated for medical applications. Lab Use Only!

E-mail: tech@probechem.com