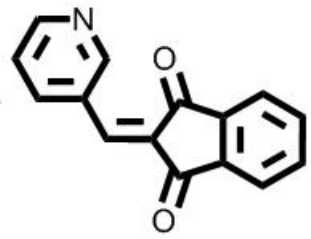
Xcess Biosciences Inc.
7144 N Harlem Ave #169
Chicago, IL 60631 USA

http://www.xcessbio.com
Toll free: 1-866-706-2330
Fax: 1-619- 810-0718
Email: info@xcessbio.com

E3 Ubiquitin-ligase Bmi1/Ring1A Inhibitor – PRT4165

Chemical Name: 2-(pyridin-3-ylmethylene)-1H-indene-1,3(2H)-dione



Molecular Weight:	235.24
Formula:	$C_{15}H_9NO_2$
Purity:	≥98%
CAS#:	31083-55-3
Solubility:	DMSO up to 100 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

PRT4165 is a potent and selective E3 Ubiquitin-ligase Bmi1/Ring1A Inhibitor, inhibits self-ubiquitination (IC_{50} ~3.9 μM) but does not increase cellular levels of either subunit. Bmi1/Ring1A are subunits of the polycomb repressive complex 1 (PRC1) and play an important role in aberrant gene silencing in human cancers. PRT4165 could prevent Bmi1/Ring1A-mediated ubiquitination and drug-induced degradation of topoisomerase 2α (Top2α). It also inhibits the in vitro E3 ubiquitin ligase activity of RNF2 and a Bmi1/RNF2 complex, inhibiting H2A/H2AX ubiquitination. It can block polycomb repressor complex (PRC) 1-mediated histone H2A ubiquitination in vitro. PRT4165 is a novel chromatin-remodeling compound and provides a new tool for the inhibition of ubiquitylation signaling at DNA double-strand breaks.

How to Use:

In vitro: PRT4165 was used at 10-50 μM final concentration in various in vitro assays.

In vivo: n/a

Reference:

1. Alchanati I, et al. The E3 ubiquitin-ligase Bmi1/Ring1A controls the proteasomal degradation of Top2alpha cleavage complex - a potentially new drug target. (2009) PLoS One. 4(12):e8104.
2. Ismail IH, et al. A small molecule inhibitor of polycomb repressive complex 1 inhibits ubiquitin signaling at DNA double-strand breaks. (2013) J Biol Chem. 288(37):26944-54.