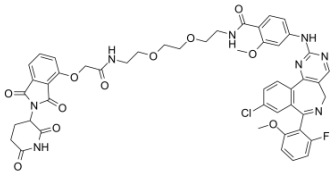
JB170

Cat. No.:	HY-141512
Molecular Formula:	$C_{48}H_{44}ClFN_8O_{11}$
Molecular Weight:	963.36
Target:	PROTAC; Aurora Kinase
Pathway:	PROTAC; Cell Cycle/DNA Damage; Epigenetics
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

JB170 is a potent and highly specific PROTAC-mediated AURORA-A degrader (DC_{50}=28 nM) by linking Alisertib, to the CEREBLON-binding molecule Thalidomide. JB170 preferentially binds AURORA-A (EC_{50}=193 nM) over AURORA-B (EC_{50}=1.4 μM). JB170-mediated S-phase arrest is caused specifically by AURORA-A depletion. JB170 has excellent ability to inhibit non-catalytic function of AURORA-A kinase[1].

IC_{50} & Target			
Aurora A 28 nM (DC50)	Aurora A 99 nM (Kd)	Aurora A 193 nM (EC50)	Cereblon

In Vitro

JB170 (1 μM; 24-72 hours; MV4-11 cells) mediates Aurora-A depletion inhibiting cancer cell survival[1].
JB170 (0.01-10 μM; 6 hours; MV4-11 cells) reduces AURORA-A levels [1].
JB170 (0.5 μM; 12 hours; MV4-11 cells) delays/arrests S-phase progression[1].
JB170 (0.5 μM; 0-72 hours; MV4-11 cells) induced apoptosis is exclusively caused by targeting AURORA-A[1].
JB170 (0.1 μM; 0-9 hours; IMR5 cells) shows rapid AURORA-A depletion. JB170 (0~1 μM; 6 hours; MV4-11 cells) strongly attenuates in mutants with respect to AURORA-A. JB170 (0.1 μM; 18 hours; MV4-11 cells) does not activate AURORA-A. JB170 (0~1 μM; 24 hours; IMR5 cells) largely abrogates AURORA-A^{T217D} depletion. JB170 (1 μM; 4 days; IMR5 cells) mediates Aurora-A depletion inhibiting cancer cell survival. JB170 (IMR5 cells) reduces AURORA-A levels by lowering AURORA-A mRNA levels[1]
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MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	MV4-11 cells
Concentration:	1 μM
Incubation Time:	24-72 hours
Result:	After 72 hours, the number of viable cells was 32% of control levels.

Western Blot Analysis[1]

Cell Line:	MV4-11 cells
Concentration:	0.01~10 μM

Incubation Time:	6 hours
Result:	Substantial degradation was observed at 100 nM and 1 μM.

Apoptosis Analysis[1]

Cell Line:	MV4-11 cells
Concentration:	0.5 μM
Incubation Time:	0~72 hours
Result:	Apoptosis was exclusively caused by targeting AURORA-A.

Cell Cycle Analysis[1]

Cell Line:	MV4-11 cells
Concentration:	0.5 μM
Incubation Time:	12 hours
Result:	Delayed or arrested S-phase progression.

REFERENCES

[1]. Adhikari B, et al. PROTAC-mediated degradation reveals a non-catalytic function of AURORA-A kinase. Nat Chem Biol. 2020;16(11):1179-1188.

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