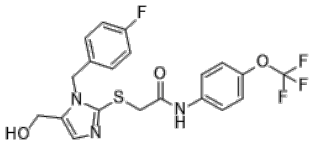
ProbeChem®
Expedite Your Scientific Research

WWW.PROBECHEM.COM

Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	CIM7
Cat. No.	:	PC-24817
CAS No.	:	904829-52-3
Molecular Formula	:	$C_{20}H_{17}F_4N_3O_3S$
Molecular Weight	:	455.43
Target	:	Autophagy
Solubility	:	10 mM in DMSO



CAS: 904829-52-3

Biological Activity

CMA Inhibitory Molecule 7 (**CIM7**) is a potent and selective **chaperone-mediated autophagy** (CMA) inhibitor with IC50 of 75 nM (A549 cells, 24h), functions by disrupting the **NCoR1/RARα** interaction and altering the CMA regulatory transcriptional program to suppress CMA.
CIM7 potently inhibit CMA activity in additional NSCLC cell lines, H1703 and H23, with IC50 of 355 and 195 nM respectively, which harbor different Kras and TP53 mutation statuses.
CIM7 (5 uM) has no inhibitory effect on CMA activity in various non-tumorigenic cell lines, has no effect on macroautophagy.
CIM7 disrupts the NCoR1/RARα interaction, directly binds recombinant RARα with KD of 2 uM.
CIM7 does not alter the binding of the coactivator SRC to RARα, selectively regulates only co-repressor NCoR1 binding to RARα.
CIM7 is specific to RARα and does not interact with the other RAR family members.
CIM7 treatment preferentially impacted the proteome related to protein folding, chromatin, cytoplasmic translation, and the nucleosome in A549 cells, CIM7 inhibits degradation of a subset of CMA substrates in NSCLC cells.
CIM7 inhibits viable cell population of all NSCLC cell lines with IC50 of 15-24 uM.
CIM7 treatment (25 mg/kg) reduces CMA and NSCLC tumor growth in xenograft mouse model of A549 cells.

References

McCabe M, et al. ***EMBO Mol Med.*** 2025 Jun 9. doi: 10.1038/s44321-025-00254-y.

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

E-mail: tech@probechem.com