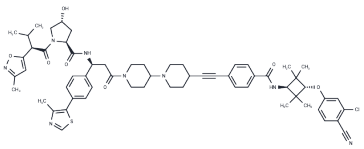
Data Sheet (Cat.No.T39853)

TargetMol
YOUR TARGET MOLECULES

ARD-61

Chemical Properties



CAS No. : 2316837-08-6

Formula: C61H71ClN8O7S

Molecular Weight: 1095.8

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	ARD-61 is a potent and specific PROTAC androgen receptor (AR) degrader, exhibiting high effectiveness. It effectively induces the degradation of AR and progesterone receptors (PR) in AR+ cancer cell lines, leading to apoptosis. Additionally, ARD-61 demonstrates significant tumor growth inhibition in the MDA-MB-453 xenograft model in mice.
Targets(IC50)	PROTACs
In vitro	ARD-61 is a chemical compound that interacts with the androgen receptor (AR) protein and the von Hippel-Lindau (VHL)/cullin 2 E3 ligase through distinct portions of its structure, enabling the recruitment and subsequent degradation of the AR protein via ubiquitination and proteasome pathways. In cellular assays, ARD-61 exhibits differential inhibitory concentrations (IC50) against AR expression, notably achieving IC50 values of 235 nM and 121 nM in MDA-MB-453 and HCC1428 cell lines, respectively, which display high AR expression. The compound also shows varying degrees of cell growth inhibition in cell lines with moderate AR levels, presenting IC50 values of 39, 147, and 380 nM in MCF-7, BT-549, and MDA-MB-415 cell lines, respectively. Furthermore, ARD-61 induces G2/M cell cycle arrest and apoptosis in a concentration- and time-dependent manner in AR-positive breast cancer cell lines. It effectively reduces AR and progesterone receptor (PR) protein levels without significantly affecting estrogen receptor (ER) and glucocorticoid receptor (GR) proteins. Additionally, ARD-61 inhibits the Wnt/β-catenin and MYC signaling pathways and decreases both phosphorylated and non-phosphorylated forms of HER2 and HER3 proteins. The efficiency of ARD-61 in inducing AR degradation is contingent upon the presence of VHL, as VHL knock-down in cell lines blocks this effect. Cell viability and cycle analyses, along with apoptosis and western blot assessments, corroborate the compound's potent and selective action against AR-positive breast cancer cell lines, with dosages ranging from 0.001-100 μM over varying time frames demonstrating its ability to both inhibit cell growth and trigger programmed cell death.
In vivo	ARD-61, administered intraperitoneally (ip) at doses of 25 and 50 mg/kg/day for 75 days, has shown to significantly inhibit tumor growth in the MDA-MB-453 xenograft model in male SCID mice[1]. Additionally, a single dose of 25 mg/kg ARD-61 rapidly and effectively reduces AR protein levels in MDA-MB-453 xenograft tissue, with the reduction lasting for at least 24 hours. Furthermore, ARD-61 markedly decreases the mRNA expression of WNT7B in a time-dependent manner[1]. This study utilized the MDA-MB-453 xenograft tumor model in male SCID mice, demonstrating ARD-61's potent anti-

tumor activity through daily intraperitoneal administration at specified dosages over a set period, resulting in effective tumor growth inhibition[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9126 mL	4.5629 mL	9.1258 mL
5 mM	0.1825 mL	0.9126 mL	1.8252 mL
10 mM	0.0913 mL	0.4563 mL	0.9126 mL
50 mM	0.0183 mL	0.0913 mL	0.1825 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Lijie Zhao, et al. A highly potent PROTAC androgen receptor (AR) degrader ARD-61 effectively inhibits AR-positive breast cancer cell growth in vitro and tumor growth in vivo. Neoplasia. 2020 Oct;22(10):522-532.