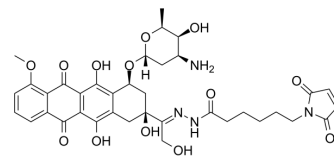


Aldoxorubicin

Cat. No.:	HY-16261
CAS No.:	1361644-26-9
Molecular Formula:	C ₃₇ H ₄₂ N ₄ O ₁₃
Molecular Weight:	750.75
Target:	Topoisomerase; ADC Cytotoxin
Pathway:	Cell Cycle/DNA Damage; Antibody-drug Conjugate/ADC Related
Storage:	-80°C, stored under nitrogen * The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (66.60 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.3320 mL	6.6600 mL	13.3200 mL
	5 mM	0.2664 mL	1.3320 mL	2.6640 mL
	10 mM	0.1332 mL	0.6660 mL	1.3320 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (3.33 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (3.33 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (3.33 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Aldoxorubicin (INNO-206) is an albumin-binding prodrug of Doxorubicin (DNA topoisomerase II inhibitor), which is released from albumin under acidic conditions. Aldoxorubicin (INNO-206) has potent antitumor activities in various cancer cell lines and in murine tumor models.

IC₅₀ & Target

Topoisomerase II	Daunorubicins/Doxorubicins
------------------	----------------------------

In Vitro

Aldoxorubicin (INNO-206) (0.27 to 2.16 μM) inhibits blood vessel formation and reduces multiple myeloma cell growth in a pH-dependent fashion^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Aldoxorubicin (INNO-206) (10.8 mg/kg, i.v.) shows significantly smaller tumor volumes and IgG levels on days 28, and is well tolerated with 90% of mice surviving until the termination of the study in the mice bearing the LAGκ-1A tumor^[1]. Aldoxorubicin (INNO-206) shows a good safety profile at doses up to 260 mg/mL doxorubicin equivalents, and is able to induce tumor regressions in breast cancer, small cell lung cancer and sarcoma in phase I study^[2]. Aldoxorubicin (INNO-206) shows superior activity over doxorubicin in a murine renal cell carcinoma model and in breast carcinoma xenograft models^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay^[1]

Cells are seeded at 1×10^5 cells/100 μ L/well in 96-well plates in RPMI-1640 media with FBS for 24 hours before treatment. Cells are cultured in the presence of medium, Aldoxorubicin (INNO-206) or doxorubicin for 48 hours. Next, cell viability is quantified using the CellTiter 96 Aqueous Non-Radioactive Cell Proliferation Assay. Each well is treated with MTS for 1 to 4 hours, after which absorbance at 490 nm is recorded using a 96-well plate reader. The quantity of formazan product as measured is directly proportional to the number of living cells. Data graphed are means \pm SEM using 3 replicates per data point.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Administration^[1]

For the LAGκ-1A experiment, Aldoxorubicin (INNO-206) is administered to SCID mice at 10.8 mg/kg (doxorubicin equivalent dose of 8.0 mg/kg) once weekly. Mice are treated with conventional doxorubicin at 4.0 and 8.0 mg/kg once weekly. For the LAGκ-2 experiment, Aldoxorubicin (INNO-206) is administered once weekly (W) at doses of 2.7 and 5.4 mg/kg, or on 3 consecutive days (W-F) weekly at doses of 0.9 and 1.8 mg/kg. PS-341 is administered twice weekly (W, F) at a dose of 0.5 mg/kg. Doxorubicin is administered to SCID mice at 2, 4, and 8 mg/kg, and PLD is administered to SCID mice at 2 mg/kg once weekly. Each drug is administered i.v. in a volume of 100 μ L.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Sci Adv. 2019 Aug 14;5(8):eaaw6081.
- Nano Res. 08 February 2022.
- Br J Pharmacol. 2017 Sep;174(17):2862-2879.
- Acta Pharm Sin B. 21 July 2022.
- Bioeng Transl Med. 26 July 2022.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Eric Sanchez, et al. Anti-Myeloma Effects of the Novel Anthracycline Derivative INNO-206. Clin Cancer Res.2012 18; 3856.
- [2]. Kratz, F. INNO-206 (DOXO-EMCH), an Albumin-Binding Prodrug of Doxorubicin Under Development for Phase II Studies. Current Bioactive Compounds, 2011, 7(1): 33-38(6)
- [3]. Graeser R, et al. INNO-206, the (6-maleimidocaproyl hydrazone derivative of doxorubicin), shows superior antitumor efficacy compared to doxorubicin in different tumor xenograft models and in an orthotopic pancreas carcinoma model. Invest New Drugs. 2010 F

[4]. Walker L, et al. Cell penetrating peptides fused to a thermally targeted biopolymer drug carrier improve the delivery and antitumor efficacy of an acid-sensitive doxorubicin derivative. Int J Pharm. 2012 Oct 15;436(1-2):825-32.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA