Belotecan hydrochloride

Cat. No.: HY-13566A

CAS No.: 213819-48-8

Molecular Formula: $C_{25}H_{28}ClN_3O_4$

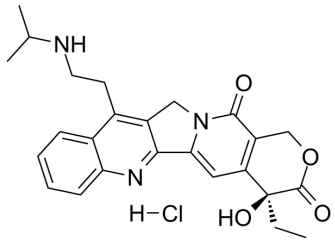
Molecular Weight: 469.96

Target: Topoisomerase

Pathway: Cell Cycle/DNA Damage

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 12.5 mg/mL (26.60 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1278 mL	10.6392 mL	21.2784 mL
	5 mM	0.4256 mL	2.1278 mL	4.2557 mL
	10 mM	0.2128 mL	1.0639 mL	2.1278 mL

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

BIOLOGICAL ACTIVITY

Description

Belotecan hydrochloride (CKD-602 hydrochloride), a Topoisomerase I inhibitor, is a synthetic camptothecin derivative.

IC_{50} & Target

Top1

In Vitro

Belotecan exerts a significant cytotoxic effect on YD-8, YD-9 and YD-38 cells in a time- and dose-dependent manner with IC_{50} values of 2.4, 0.18 and 0.05 μg/mL at 72 h following treatment. Belotecan induces apoptosis in these cell lines. Belotecan induces G2/M phase arrest in oral squamous cell cancer cells[1]. Belotecan shows a significant anticancer effect on glioma cells, with IC_{50} values of 9.07 nM for LN229, 14.57 nM for U251 MG, 29.13 nM for U343 MG, and 84.66 nM for U87 MG[2].

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

In Vivo

Belotecan has a significant effect on intracerebral glioma growth, with animals having significantly smaller tumors than those in the control group[3].

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

PROTOCOL

Cell Assay [1]	The cells are treated with different concentrations (0.01, 0.1, 0.5, 1, 5 and 10 μg/mL) of belotecan for 24, 48 and 72 h. Control samples of each cell line are treated with medium only. Cell viability is measured using the MTS assay[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice: Nude mice with established U87MG glioma are treated with a dose of belotecan of 0 mg/kg (control group, injection with saline), 40 mg/kg (group A) or 60 mg/kg (group B). Thereafter, the dose is repeated once every 4 days for a total of four doses. Tumor volume is measured histologically and apoptosis is detected[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

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REFERENCES

[1]. Kim YK, et al. Anticancer effects of CKD-602 (Camtobell?) via G2/M phase arrest in oral squamous cell carcinoma cell lines. Oncol Lett. 2015 Jan;9(1):136-142.

[2]. Kim YY, et al. CKD-602, a camptothecin derivative, inhibits proliferation and induces apoptosis in glioma cell lines. Oncol Rep. 2009 Jun;21(6):1413-9.

[3]. Kim CY, et al. Antitumor activity of CKD-602, a camptothecin derivative, in a mouse glioma model. J Clin Neurosci. 2012 Feb;19(2):301-5.

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