Brentuximab vedotin

Cat. No.: HY-P99107

CAS No.: 914088-09-8

Target: Apoptosis; Antibody-Drug Conjugates (ADCs); TNF Receptor

Pathway: Apoptosis; Antibody-drug Conjugate/ADC Related

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)

Brentuximab vedotin

BIOLOGICAL ACTIVITY

Description

Brentuximab vedotin (cAC10-vcMMAE) is an antibody-drug conjugate (ADC) comprising an anti-CD30 antibody and the cytotoxic agent Monomethyl auristatin E (MMAE). Brentuximab vedotin inhibits CD30-positive cells with an IC_{50} of 2.5 ng/mL. Brentuximab vedotin can be used for the research of relapsed and refractory Hodgkin lymphoma[1][2].

IC_{50} & Target

IC50: 2.5 ng/mL (CD30)[2]

In Vitro

Brentuximab vedotin (cAC10-vcMMAE) (1 μg/mL; 96 h) shows cytotoxicity to $CD30^+$ in Karpas 299 cells[2].
?Brentuximab vedotin (CAC10-VCMMAE) (1 μg/mL; 12, 24 and 48 h) selectively induces growth arrest in G2/M phase then lead to apoptotic cell ?death[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[2]

Cell Line:	Karpas 299 cells
Concentration:	1 μg/mL
Incubation Time:	96 h
Result:	Showed cytotoxicity to $CD30^+$ Karpas 299 cells with an IC_{50} value of 2.5 ng/mL.

Cell Cycle Analysis[2]

Cell Line:	L540 cells
Concentration:	1 μg/mL
Incubation Time:	12, 24, and 48 h
Result:	Selectively induced growth arrest in G2/M phase to apoptotic cell death.

In Vivo

Brentuximab vedotin (cAC10-vcMMAE) (10-120 mg/kg; i.p. for 3 weeks) the maximum tolerated dose (MTD) is between 30 and 40 mg/kg[2].
?Brentuximab vedotin (cAC10-vcMMAE) (0.3, 1 mg/kg; flanks injection; every 4 days for a total of 4 doses 1 mg/kg) induces tumor CD30 regression[2].

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

Animal Model:	SCID mice[2]
Dosage:	10 to 120 mg/kg
Administration:	Intravenous injection; 10 to 120 mg/kg; for 3 weeks
Result:	Showed an maximum tolerated dose between 30 and 40 mg/kg.

Animal Model:	SCID mice[2]
Dosage:	0.3 and 1 mg/kg
Administration:	Flanks injection; 1 mg/kg every 4 days for a total of 4 doses; 0.3 mg/kg every 4 days for a total of 4 doses
Result:	Induced complete and durable tumor regression, but 0.3 mg/kg provided lower therapy than 1 mg/kg dose.

REFERENCES

[1]. Shea L, Mehta-Shah N. Brentuximab Vedotin in the Treatment of Peripheral T Cell Lymphoma and Cutaneous T Cell Lymphoma. Curr Hematol Malig Rep. 2020 Feb;15(1):9-19.

[2]. Francisco JA, et al. cAC10-vcMMAE, an anti-CD30-monomethyl auristatin E conjugate with potent and selective antitumor activity. Blood. 2003 Aug 15;102(4):1458-65.

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