Cudarolimab

Cat. No.: HY-P99836

CAS No.: 2244739-29-3

Target: Orexin Receptor (OX Receptor)

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Cudarolimab (IBI101) is a completely human anti-OX40 (CD134, a co stimulating molecule expressed by activated immune cells) antibody. Cudarolimab inhibits the binding of OX40 to its ligand OX40L. Cudarolimab has antitumor activity and can be used in cancer related research[1].

In Vitro

Cudarolimab (0.01, 1, 100 or 10000 nM) binds to OX40 and partially blocks the binding of OX40 to its ligand OX40L in CHO-S cells overexpressing human OX40 (CHO-S-hOX40). Cudarolimab activates OX40 dependent NF-κB reporters with an EC_{50} value of 4.432 nM in Jurkat-OX40 reporter cells co-cultured with Raji cells[1].

Cudarolimab (0.01, 0.1, 1, 10, 100 or 1000 nM) binds to activated human $CD4^+$ T cells and activated cynomolgus monkey $CD4^+$ T cells in a dose dependent manner[1].

Cudarolimab (0.4, 4.0 and 40.4 nM) increases IL-2 secretion with dose dependent manner in human $CD4^+$ T cells[1].

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

In Vivo

Cudarolimab (10 mg/kg; i.p.; single dose on days 3, 7, 11, 14 and 15) significantly reduces tumor volume in humanized NOG mice bearing LoVo tumors[1].

Cudarolimab (0.1, 1 and 10 mg/kg; i.p.; single dose on days 6, 9, 12 and 16) significantly reduces tumor volume, increases IFN-γ^+ and IFN-α^+ expression in $CD8^+$ T cells in tumor and spleen of human OX40 knock-in mice bearing MC38 tumors[1].

Cudarolimab (10 mg/kg; i.p.; single dose on days 10 and 14) significantly reduces the expression of $CD3^+CD8^+$, $CD3^+CD4^+$, $CD4^+CD25^{high}FoxP3^+$ in the tumor and spleen of human OX40 knock-in mice bearing MC38 tumors[1].

Pharmacokinetic (PK) parameters of Cudarolimab in cynomolgus macaques[1]

Dose (mg/kg)	C_{max} (μg/mL)	T_{max} (h)	$AUC_{0-\infty}$ (h•μg/mL)	$T_{1/2}$ (h)	Cl (mL/h/kg)	MRT_{last} (h)
0.1	3.07±0.40	0.08±0.00	347.98±99.30	162.98±103.01	0.31±0.08	186.34±110.68
0.5	9.78±3.27	0.40±0.78	1429.19±607.21	129.47±114.44	0.40±0.14	136.03±108.05
2.5	63.10±15.29	0.08±0.00	10304.06±3403.59	190.89±92.94	0.27±0.09	212.29±114.61
12.5	296.57±58.05	0.40±0.78	33511.65±14982.36	120.30±153.26	0.44±0.20	114.93±87.66

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

Animal Model:	Humanized NOG mice bearing LoVo tumors[1].
Dosage:	10 mg/kg.
Administration:	Intraperitoneal injection; single dose on days 3, 7, 11, 14 and 15.
Result:	Reduced tumor volume.

Animal Model:	Human OX40 knock-in mice bearing MC38 tumors[1].
Dosage:	0.1, 1 and 10 mg/kg.
Administration:	Intraperitoneal injection; single dose on days 6, 9, 10, 12, 14 and 16.
Result:	Showed anti-tumor activity.

REFERENCES

[1]. Kuang Z, et al. Development and characterization of a novel anti-OX40 antibody for potent immune activation. Cancer Immunol Immunother. 2020 Jun;69(6):939-950.

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