Carotuximab

Cat. No.:	HY-P99494
CAS No.:	1268714-50-6
Target:	TGF-beta/Smad
Pathway:	Stem Cell/Wnt; TGF-beta/Smad
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Carotuximab (TRC105) is a IgG1 monoclonal antibody that blocks endoglin (CD105) and its downstream Smad signaling pathway. Carotuximab has immunomodulatory and antineoplastic actions[1][2].

In Vitro

Carotuximab (TRC105; 300 μg/mL; pretreatment 1 h, and then co-cultured for 12 h) reduces the 7-Ketocholesterol-induced endoglin (Eng) protein levels and pSmad1/5 and pSmad2/3 signaling in human aortic endothelial cells (HAoECs). Carotuximab mediated blockage of Eng prevented 7-Ketocholesterol-induced adhesion and transmigration of monocytes through endothelial monolayers[1].

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

Western Blot Analysis[1]

Cell Line:	Human aortic endothelial cells (HAoECs)
Concentration:	300 μg/mL
Incubation Time:	Pretreatment 1 h, and then co-cultured for 12 h
Result:	Reduced the 7-Ketocholesterol-induced Eng protein levels and pSmad1/5 and pSmad2/3 signaling.

In Vivo

Carotuximab (TRC105; 2 mg/kg; i.v; every 3 days; for 8 weeks) along with Decitabine results in a more durable anti-leukemic effect in acute myeloid leukemia (AML) xenografts. And also enhances reactive oxygen species (ROS) activity[2].

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Animal Model:	Female NSG (NOD.Cg-Prkdc^{scid} Il2rgtm1Wjl/SzJ; 7-8 weeks) injected with primary AML-0032 cells[2]
Dosage:	2 mg/kg
Administration:	i.v; every 3 days; for 8 weeks
Result:	Along with Decitabine resulted in a more durable anti-leukemic effect in AML xenografts.

REFERENCES

[1]. Katarina Tripska , et al. Monoclonal anti-endoglin antibody TRC105 (carotuximab) prevents hypercholesterolemia and hyperglycemia-induced endothelial dysfunction in human aortic endothelial cells. Front Med (Lausanne). 2022 Sep 7;9:845918.

[2]. June Baik, et al. Therapeutic effect of TRC105 and decitabine combination in AML xenografts. Heliyon. 2020 Oct 13;6(10):e05242.

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