Zalutumumab

Cat. No.: HY-P99155

CAS No.: 667901-13-5

Target: EGFR

Pathway: JAK/STAT Signaling; Protein Tyrosine Kinase/RTK

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

BIOLOGICAL ACTIVITY

Description

Zalutumumab is a high affinity, completely human IgG1 monoclonal antibody targeting EGFR. Zalutumumab binds to domain III of the EGF receptor and acts by blocking the binding of EGF and by sterically interfering with the active conformation of the receptor. Zalutumumab binds with IgG and its Fab fragment with EC_{50}s of 7 and 19 nM, respectively. Zalutumumab can be used for the research of cancer[1][2][3].

In Vitro

Zalutumumab (0-1 μM; 60 min) effectively blocks EGF-induced EGFR activation with an IC_{50} value of 1.3 nM[2].
Zalutumumab (0-1 μM; 96 h) affects proliferation of A431 cells[2].
Zalutumumab (10 μg/mL; 24 h) induces a comparable percentage of specificlysis of A431 cells with mouse macrophages[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[2]

Cell Line:	A431 cell line
Concentration:	0-1 μM
Incubation Time:	96 hours
Result:	Inhibited A431 cells proliferation with an IC_{50} value of 1.5 nM.

In Vivo

Zalutumumab (5 mg/kg; i.p. 2 h after tumor induction) affects tumor growth in A431 xenograft models[3].
Zalutumumab (0.5 and 5 mg/kg; i.p. once) delays tumor growth when mice with tumor volumes of 80-100 mm^3[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	SCID mice with A431 cells injection[3]
Dosage:	5 mg/kg
Administration:	Intraperitoneal injection; 5 mg/kg 2 hours after tumor induction
Result:	Effectively inhibited tumor growth in A431 xenograft models with an early treatment.

REFERENCES

[1]. Schick U, et al. Zalutumumab in head and neck cancer. Expert Opin Biol Ther. 2012 Jan;12(1):119-25.

[2]. Lammerts van Bueren JJ, et al. The antibody zalutumumab inhibits epidermal growth factor receptor signaling by limiting intra- and intermolecular flexibility. Proc Natl Acad Sci U S A. 2008 Apr 22;105(16):6109-14.

[3]. Overdijk MB, et al. Epidermal growth factor receptor (EGFR) antibody-induced antibody-dependent cellular cytotoxicity plays a prominent role in inhibiting tumorigenesis, even of tumor cells insensitive to EGFR signaling inhibition. J Immunol. 2011 Sep 15;187(6):3383-90.

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