Cetuximab

Cat. No.:	HY-P9905
CAS No.:	205923-56-4
Molecular Weight:	145543.34
Target:	EGFR; Radionuclide-Drug Conjugates (RDCs)
Pathway:	JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Antibody-drug Conjugate/ADC Related
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Cetuximab (C225) is a human IgG1 monoclonal antibody that inhibits epidermal growth factor receptor (EGFR), with a K_d of 0.201 nM for EGFR by SPR. Cetuximab has potent antitumor activity[1].		
IC_{50} & Target	EGFR 0.147 nM (Kd, Fixed A431 cells)	RDC Antibody	Soluble EGFR 0.201 nM (Kd)
In Vitro	Cetuximab (C225) is a monoclonal antibody that inhibits epidermal growth factor receptor (EGFR), with a K_d of 0.201 nM for soluble EGFR by SPR. Cetuximab also exhibits a K_d of 0.147 nM for EGFR in fixed A431 cells by ELISA[1]. Cetuximab (C225; 30 nM) time-dependently inhibits the proliferation of SCC-1, SCC-11B, SCC-38, and SCC-13Y cells after treatment for 8 d. Cetuximab (30 nM) causes G_0/G_1 arrest, induces apoptosis, and reduces Rb, $p27^{KIP1}$, Bcl-2, and Bax expression in SCC-13Y cells. Cetuximab (30 nM) also enhances radiosensitivity and increases radiation-induced apoptosis in SCC-13Y cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.		
In Vivo	Cetuximab (1 mg/injection) has effect on the tumour volume but the effect is more pronounced on UT-SCC-14 xenografts. In UT-SCC-14 xenografts, Cetuximab significantly reduces the expression of EGFR, pEGFR and Ki67. Cetuximab significantly decreases the expression in the MCT1 and GLUT1 cells but differences are more pronounced in UT-SCC-14 xenografts[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.		

CUSTOMER VALIDATION

- Cell. 2023 Dec 7;186(25):5606-5619.e24.
- Cell Res. 2022 Oct 14.
- Cell Res. 2020 Dec;30(12):1063-1077.
- Nat Nanotechnol. 2024 Oct 28.
- Mol Cancer. 2021 Jan 18;20(1):17.

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REFERENCES

[1]. Goldstein NI, et al. Biological efficacy of a chimeric antibody to the epidermal growth factor receptor in a human tumor xenograft model. Clin Cancer Res. 1995 Nov;1(11):1311-8.

[2]. Gustafsson H, et al. EPR Oximetry of Cetuximab-Treated Head-and-Neck Tumours in a Mouse Model. Cell Biochem Biophys. 2017 Jul 29.

[3]. Huang SM, et al. Epidermal growth factor receptor blockade with C225 modulates proliferation, apoptosis, and radiosensitivity in squamous cell carcinomas of the head and neck. Cancer Res. 1999 Apr 15;59(8):1935-40.

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