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单克隆抗体CH12抑制头颈部鳞状细胞癌裸鼠种植瘤的生长 [点此下载全文](#)

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摘要:

目的: 观察嵌合型单克隆抗体CH12对头颈部鳞状细胞癌 (head and neck squamous cell carcinomas, HNSCC) 裸鼠种植瘤CH12单抗在肿瘤治疗中的作用提供参考数据。方法: Western blotting检测5种HNSCC细胞系A253、CAL27、Detroit 562、表皮生长因子受体 (epidermal growth factor receptor, EGFR) 的表达, 流式细胞术检测CH12单抗同这5种细胞系的结合能力。皮下接种裸鼠种植瘤模型。模型鼠腹腔注射CH12单抗, 以PBS作为阴性对照, 观察肿瘤生长情况, 绘制肿瘤生长曲线。结果: EGFR在CAL27细胞中均有不同程度的表达, 其中CAL27细胞中EGFR的表达水平最高, A253细胞次之。CH12单抗与5种HNSCC细胞系的结合能力, A253、Detroit 562和RPMI 265细胞。CH12单抗对CAL27和A253细胞裸鼠种植瘤的生长均有显著抑制作用, 抑瘤率分别为9.7% (P = 0.015)。结论: 单克隆抗体CH12对EGFR高表达的HNSCC细胞种植瘤的生长具有明显的抑制作用。

关键词: [CH12](#) [单克隆抗体](#) [表皮生长因子受体](#) [头颈部鳞状细胞癌](#)

CH12 monoclonal antibody inhibits growth of head and neck squamous cell carcinomas xenografts in nu

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Abstract:

Objective: To investigate the inhibitory effect of chimeric monoclonal antibody CH12 on the growth of head and neck squamous cell carcinoma (HNSCC) xenografts in vivo, and to provide basis for further study on the effect of CH12 antibody on tumor growth. The protein expression levels of the epidermal growth factor receptor (EGFR) in A253, CAL27, Detroit 562, FaDu cell lines were analyzed by Western blotting. The binding capacity of CH12 antibody with these five cell lines was determined by flow cytometry. CAL27 and A253 cells were subcutaneously inoculated into nude mice to establish HNSCC xenograft models. The tumor-bearing mice were randomized into two groups: a vehicle control group (PBS) and a treatment group (CH12). Tumor volume was measured at regular time intervals, and then the tumor growth curve was drawn. Results: EGFR was expressed in CAL27, A253, Detroit 562, FaDu, and RPMI 265 cell lines, with the highest expression in CAL27 cells and the second highest expression in A253 cells. The binding capacity of CH12 antibody with these five cell lines was followed by CAL27, FaDu, A253, Detroit 562 and RPMI 265. CH12 significantly inhibited the tumor growth of xenografts compared with that in the control group, and the tumor growth inhibition ratios were 56.8% (P=0.015) and 9.7% (P=0.015) respectively. Conclusion: CH12 antibody can effectively inhibit the tumor growth of EGFR high-expressed HNSCC xenografts.

Keywords: [CH12](#) [monoclonal antibody](#) [epidermal growth factor receptor \(EGFR\)](#) [head and neck squamous cell carcinoma](#)

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