

عنوان مقاله:

Identification of Novel Single Chain Fragment (ScFv) Antibody Against CD24, a New Molecular Marker in Breast Cancer

محل انتشار:

چهاردهمین کنگره بین المللی سرطان پستان (سال: 1397)

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خلاصه مقاله:

Introduction & Aim: Breast cancer is the second leading cause of cancer-related death among women. Today, molecular targeted therapy has become promising in cancer therapy. CD24 is a small glycoprotein which is identified as a new molecular marker in breast cancer. The goal of this study was identification of novel scFv antibodies against CD24 using phage display technology. **Methods:** A stable transgenic CHO cell line expressing recombinant CD24 was generated using a CD24 encoding construct, which targets the 18S rRNA gene of the cells. The recombinant CD24 was used in the biopanning process. Four rounds of biopanning were performed with the Tomlinson J library. A phage-displaying scFv with the highest affinity was selected using ELISA test. In order to produce soluble scFv, the phage was transfected to E. coli BL21 pLysS. ELISA analysis was used for determining of the soluble scFv affinity to recombinant CD24. **Results:** Generation of transgenic CHO cell line was confirmed by PCR using different primers. CD24 expression was detected by RT-PCR and western blot analyses. CD24 was used in the biopanning process, successfully. Three phage-displaying scFvs were obtained during biopanning. The expression of soluble form of the phage-displaying scFv with the highest affinity was confirmed by SDS-Page and western blot techniques. The soluble form showed appropriate affinity to CD24 in ELISA test. **Conclusion:** Here, we identified a novel scFv against CD24, which is a new target in breast cancer immunotherapy. The antibody may be useful in the targeted delivery of drugs or diagnostic nanoparticles to the CD24 expressing cancer cells.

کلمات کلیدی:

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