عنوان مقاله:

Development of RNA aptamers as molecular probes for HER2+ breast cancer study using cell-SELEX

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خلاصه مقاله:

Objective(s): Development of molecules that specifically recognize cancer cells is one of the major areas in cancer research. Human epidermal growth factor receptor 2 (HER2) is specifically expressed on the surface of breast cancer cells. HER2 is associated with an aggressive phenotype and poor prognosis. In this study we aimed to isolate RNA aptamers that specifically bind to HER2 overexpressing TUBO cell line. Materials and Methods: Panel of aptamers was selected using cell-based systematic evolution of ligands by exponential enrichment (cell-SELEX). Results: Binding studies showed that selected aptamers can identify TUBO cell line with high affinity and selectivity. Our preliminary investigation of the target of aptamers suggested that aptamers bind with HER2 proteins on the surface of TUBO cells. Conclusion: We believe the selected aptamers could be useful ligands for targeted breast cancer therapy.

کلمات کلیدی:

Breast Cancer, Cell-SELEX, RNA aptamer, TUBO cell line

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