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Screening and identification of the nucleic acid aptamers in nasopharyngeal carcinoma

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ABSTRACT. To screen the nucleic acid aptamers of the EB virus-positive nasopharyngeal carcinoma cells, we used SELEX technology and synthesized *in vitro* a 78-nucleotide random DNA library. We used normal nasopharyngeal epithelial cells and EB virus-positive low differentiated nasopharyngeal carcinoma cells as target to conduct 10 cycles of screening, cloning, sequencing, and identification of the aptamers. The fluorescence produced by the combination of the sub-library and the target cells gained intensity gradually with the increase in the number of screening cycles, indicating elevated binding capacity. The cluster analysis showed that the aptamers can be divided into three families, with two of the families having the common conserved sequence. In this study, by screening nucleic acid aptamers for affinity and specificity, we established an initial aptamer library for EB virus-positive nasopharyngeal carcinoma cells.

Key words: SELEX; Nasopharyngeal carcinoma; Aptamer

