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Construction of a Fusion Gene Carrying E10A and K5 with 2A Peptide-Linked by Using Overlap Extension PCR

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Abstract : E10A is a kind of replication-defective adenovirus which carries the human endostatin gene to inhibit the growth of tumors. Kringle 5(K5) has almost the same function as angiostatin to also inhibit the growth of tumors since they are all the byproduct of the proteolytic cleavage of plasminogen. Tumor size increasing can be suppressed because both of the endostatin and K5 can restrain the angiogenesis process. Therefore, in order to improve the treatment effect on tumor, 2A peptide is used to construct a fusion gene carrying both E10A and K5. Using 2A peptide is an ideal strategy when a fusion gene is expressed because it can avoid many problems during the expression of more than one kind of protein. The overlap extension PCR is also used to connect 2A peptide with E10A and K5. The final construction of fusion gene E10A-2A-K5 can provide a possible new method of the anti-angiogenesis treatment with a better expression performance.

Keywords : E10A, Kringle 5, 2A peptide, overlap extension PCR
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