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CLONING OF MELANOMA ANTIGEN-1 (MAGE-1) GENE FROM FINE NEEDLE ASPIRATION BIOPIST OF HEPATIC TISSUE OF HEPATOCELLULAR CARCINOMA PATIENTS

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Abstract

Hepatocellular carcinoma (HCC) is one of the most common malignancies in Asia. HCC expresses mRNA of melanoma antigen-1 (MAGE-1) and not expressed in non-tumor hepatic cells. This expression has been taking place at the early malignant transformation and continuously undergoing its progression. MAGE-1 is the important marker for diagnose HCC. MAGE-1 protein could be detected with antibody to MAGE-1 protein which could be obtained by doing clone of MAGE-1. However, the recombinant plasmid of MAGE-1 clone for developing of the diagnosis of HCC hasn't been obtained. The objective was to clone of coding sequence (CDS) of MAGE-1 from fine needle aspiration biopsy (FNAB) of HCC into vector and to obtain MAGE-1 recombinant plasmid. cDNA of MAGE-1 were extracted then continued by RT PCR and nested PCR. The PCR product was cloned to pET101/D-TOPO and transformed to E. coli Top10. Analyze of recombinant plasmid was undertaken by sequencing and restriction test. The result revealed that CDS of MAGE-1 were isolated and obtained band +1105 bp at first round and +931 bp at second round. The recombinant plasmid pETGM/MAGE1-HCC contained 927 nucleotides that encoded 309 amino acids. Partial sequence of MAGE-1 can be accessed in GeneBank EU161102 and ABW06861. Analyze of CDS MAGE-1 from HCC and GeneBank had 100% homology with M77481 and NM_004988 (both from skin melanoma tissue) and 99% with BC017555 (from skin melanoma tissue) and AY148486 (from HCC). This study obtains recombinant plasmid pETGM/MAGE1-HCC from the FNAB of HCC. It reveals that MAGE-1 recombinant plasmid that can be used for developing the diagnosis of HCC

Keyword : fine, needle, aspiration, biopsy, hepatocellular, carcinoma, melanoma, antigen-1, cloning

Daftar Pustaka :