In Vitro Development of Specifically Binding RNA Aptamer to Endothelial Cell-Specific Molecule 1 (ESM-1) Protein for Early Detection of HCC

박대영, 신우리, 이경아, 이은지, Simranjeet Singh Sekhon, 김대곤[1], 안지영, 민지호[2], 김양훈†
충북대학교 미생물학과; [1]전북대학교 의학전문대학원; [2]전북대학교 화학공학과
(kyh@chungbuk.ac.kr†)

Hepatocellular carcinoma (HCC) is the most common type of primary liver cancer with the highest incidence rates reported in East Asia. ESM-1 protein promote angiogenesis in HCC. For efficient HCC detection method, we use the aptamers. Aptamers are consist of single-stranded DNA or RNA and they can bind to various targets with high affinity and specificity. Aptamers have a number of advantages compare with antibody, stability at high temperature and pH conditions, and easy to application because easy modified with a various functional groups. For these reasons, we are used to RNA aptamers for ESM-1 protein detection and RNA aptamer selection with process called SELEX. This study was supported by Fund of Biomedical Research Institute, Chonbuk National University Hospital. (20120801002). This work was supported by the Human Resource Training Program for Regional Innovation and Creativity through the Ministry of Education and National Research Foundation of Korea (NRF-2015H1C1A1035921).