

Summary

Establishment and characterization of cholangiocarcinoma patient-derived xenograft

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Patient-derived xenograft (PDX) models are created by engraftment of patient tumor tissues into immunocompetent mice. Since a PDX model retains the characteristics of the primary patient tumor including gene expression profiles and drug responses, it has become the most reliable in vivo human cancer model. Cholangiocarcinoma (CCA) is an epithelial bile duct cancer with high mortality rate. Since there is no standard regimen for CCA treatment except for surgery, novel strategy of treatment is urgently needed. This study aimed to develop a patient-derived xenograft (PDX) model as well as PDX-derived cell lines of CCA from same patients for future drug screening. Frozen CCA patient tissues were transplanted into BALB/c Rag-2^{-/-} /Jak3^{-/-} (BRJ) mice subcutaneously. When tumor growth was observed, tissues were isolated for next transplantation, histological study, and in vitro culture to establish CCA cell lines. Currently, we succeeded to establish several PDX and PDX derived cell lines. The combination of PDXs and PDX derived cell lines can be useful model for evaluation of candidate drugs against PDX.

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