

Inhibitory Effects of Targeted Regulatory LKB1 Gene on the Proliferation and Invasion of Osteosarcoma Cells

Jie Liu, Haitao Jiang, Qifeng Lu, Libin Xu, Jian Tong and Zhengming Lv

Department of Orthopedics, Taizhou People's Hospital, Taizhou, Jiangsu, China

KEYWORDS Inhibition. Osteosarcoma Cells. Proliferation and Invasion. Targeted Regulatory Genes. Osteosarcoma Cells. Proliferation and Invasion

ABSTRACT In this study, Immunodeficiency Nude Mouse Osteosarcoma Xenograft Model was subjected to the drug intervention to explore the effect of bexarotene on the proliferation and invasion of osteosarcoma cell lines in vitro. The inhibitory effects of targeted regulatory genes on the proliferation and invasion of osteosarcoma cells were studied through various in vitro experiments include bioinformatics combined with tissue microarray research, transcription factor prediction combined with co-expression analysis to predict the transcription factor of targeted regulatory genes in osteosarcoma. The RXR protein family, LKB1, AMPK pathway, and mTOR are closely related to the body's immune regulation. The oral administration of Bexarotene could inhibit the proliferation and able to up-regulate the expression of LKB1 gene in living osteosarcoma tissue. The xenograft model of immunodeficiency nude mice used in this study was reason for reduced the potential immunoregulatory effect of drug targeted LKB1 therapy to a certain extent. However, overexpression of LKB1 in vivo, and combined immunotherapy may become an important immunotherapy approach for osteosarcoma. LKB1 targeted therapy can potentially be used as one of the alternative treatments for mTOR inhibitors.