Circular RNAs are involved in EGFR-TKI resistance, while the role of hsa_circ_0005576 in the osimertinib resistance of LUAD remain unknown. In a study, Liu et al. demonstrated that hsa_circ_0005576 could facilitate the osimertinib-resistant LUAD cells. Briefly, knockdown of hsa_circ_0005576 not only suppressed the proliferation and promoted the apoptosis of resistant LUAD cells, but also increased its sensitivity to osimertinib. Mechanistically, hsa_circ_0005576, serving as a miRNA-sponge, could directly interact with miR-512-5p and subsequently upregulate the miR-512-5p-targeted insulin-like growth factor 1 receptor (IGF1R). The rescue assays indicated that miR-512-5p inhibition could reverse the effects of hsa_circ_0005576 knockdown on LUAD cells resistance to osimertinib. Overall, the study revealed that hsa_circ_0005576 regulates proliferation and apoptosis through miR-512-5p/IGF1R signaling, further which contributes to resistance of LUAD cells to osimertinib. Meanwhile, it provides a novel insight on the mechanism underlying osimertinib resistance of LUAD [1)].

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Liu S, Jiang Z, Xiao P, Li X, Chen Y, Tang H, Chai Y, Liu Y, Zhu Z, Xie Q, He W, Ma Y, Jin L, Feng W. Hsa_circ_0005576 promotes the osimertinib resistance through miR-512-5p/IGF1R axis in lung adenocarcinoma cells. Cancer Sci. 2021 Oct 27. doi: 10.1111/cas.15177. Epub ahead of print. PMID: 34706132.