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羅文良大夫獲口頭報告最佳論文獎



題目：Aldehyde dehydrogenase 1 is a putative marker for cancer stem cells in head and neck squamous cancer

摘要：Aldehyde dehydrogenase 1 (ALDH1) has been considered to be a marker for cancer stem cells. However, the role of ALDH1 in head and neck squamous cell carcinoma (HNSCC) has yet to be determined. In this study, we isolated ALDH1-positive cells from HNSCC patients and showed that these HNSCC-ALDH1⁺ cells displayed radioresistance and represented a reservoir for generating tumors. Based on microarray findings, the results of Western blotting and immunofluorescent assays further confirmed that ALDH1⁺-lineage cells showed evidence of having epithelial-mesenchymal transition (EMT) shifting and endogenously co-expressed Snail. Furthermore, the knockdown of Snail expression significantly decreased the expression of ALDH1, inhibited cancer stem-like properties, and blocked the tumorigenic abilities of CD44⁺CD24⁻ALDH1⁺ cells. Finally, in a xenotransplanted tumorigenicity study, we confirmed that the treatment effect of chemoradiotherapy for ALDH1⁺ could be improved by Snail siRNA. In summary, it is likely that ALDH1 is a specific marker for the cancer stem-like cells of HNSCC.