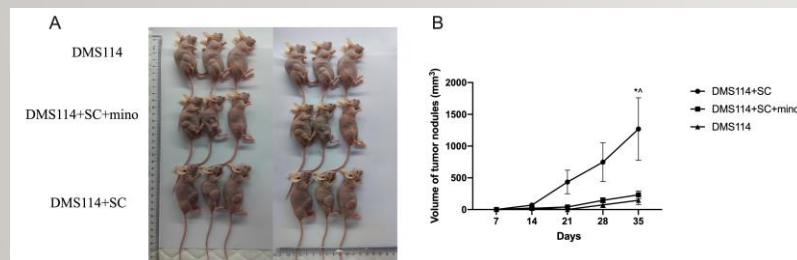
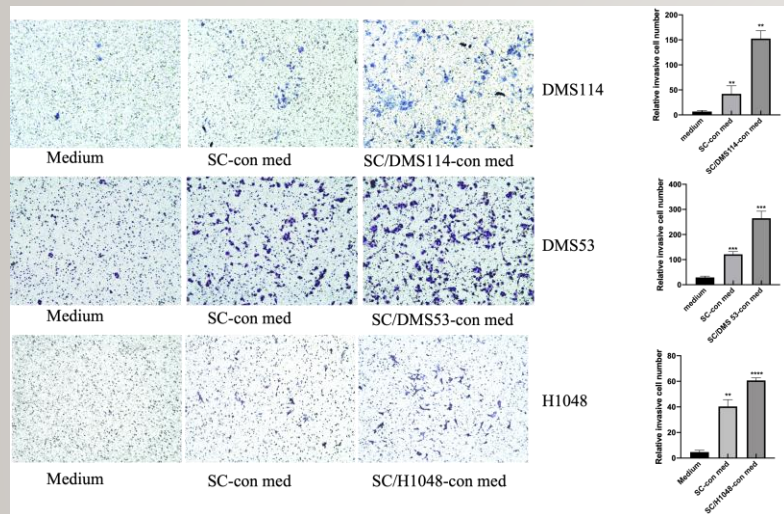


# Schwann Cells promotes tumour progression in small cell lung cancer

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- Background:** The tumor microenvironment is a complex ecosystem, consisting of various cellular and molecular components. The peripheral nervous system (PNS) is one such important player that may play critical roles at tumor progression. Schwann cells (SCs), as a significant component of the peripheral nervous system, influence the tumor microenvironment, although potential roles in small cell lung cancer (SCLC) remain unclear.
- Methods and Results:** To clarify this issue, the cell proliferation assay, annexin V apoptosis assay, and Transwell migration and invasion assay were conducted to elucidate the roles of SCLC-activated SCs, SCs, in the proliferation, apoptosis, migration and invasion of SCLC cells in vitro, compared to control group. And developing animal models to assess SCs's action in SCLC in vivo. The result confirmed that SCs have a well-established role in facilitating cancer migration and invasion of SCLC in vitro, and we also observed that SC promote growth of SCLC in vivo, and SCLC-activated SCs exhibited an advantage. Potential mechanisms were investigated by screening of differentially expressed genes and constructing networks of messenger-micro-long non-coding RNA (mRNA-miRNA-lncRNA) using DMS114 cells stimulated with media from DMS114-activated SCs, non-stimulated SCs, and appropriate controls.
- Conclusion :** This study increases our understanding that SCs, in the peripheral nervous system, may promote tumor progression of SCLC. These results highlight important mRNA-miRNA-lncRNA networks to help further clarify the mechanisms underlying the roles of SCs in SCLC.