

# Cancer-associated Fibroblasts: Is it a key to an intricate lock of tumorigenesis?

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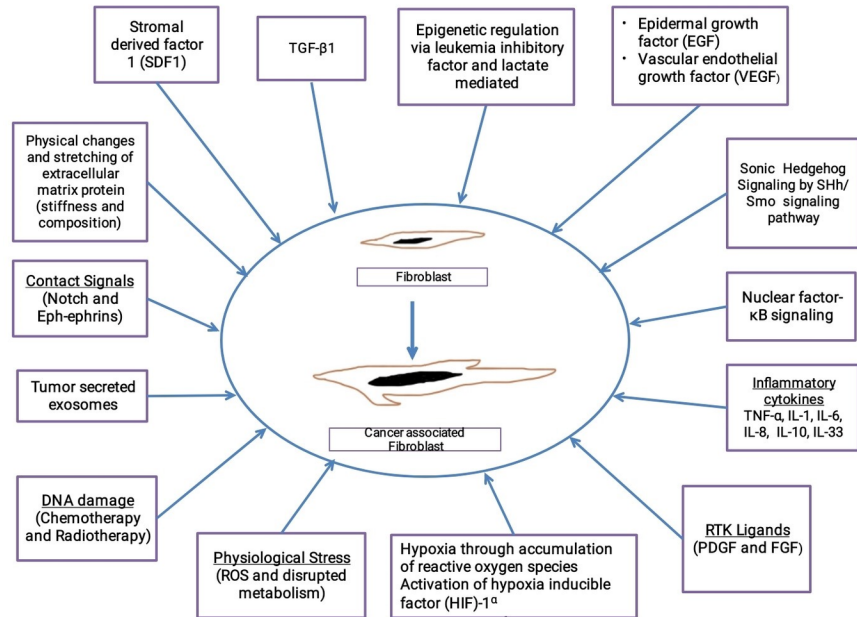
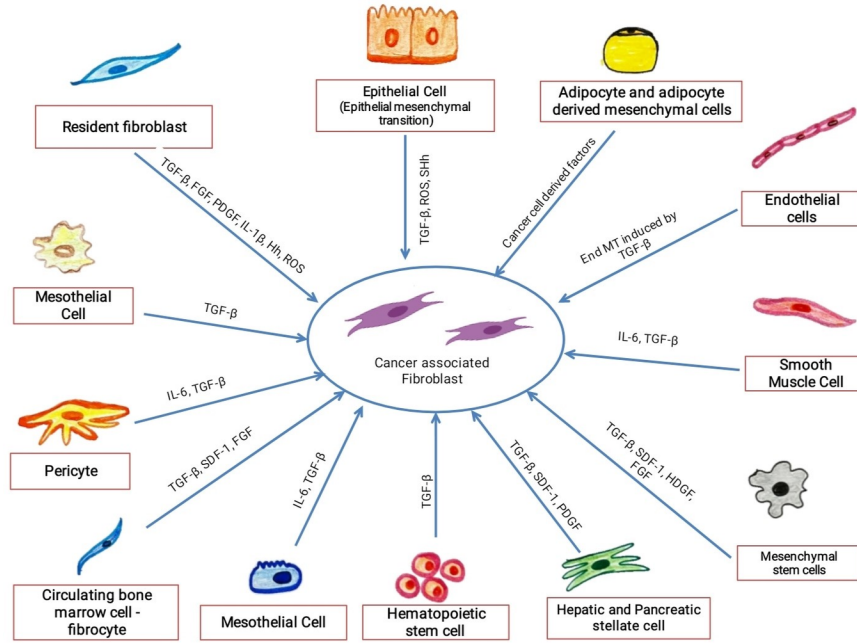
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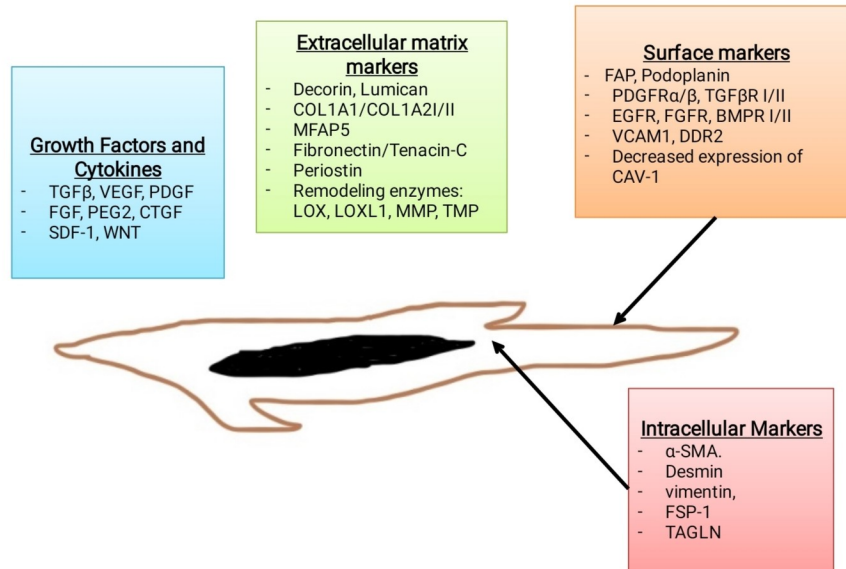
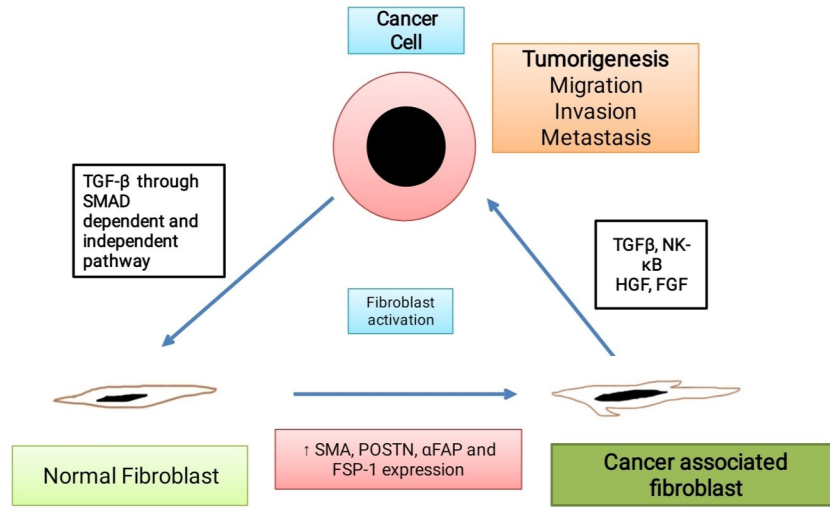
## Abstract

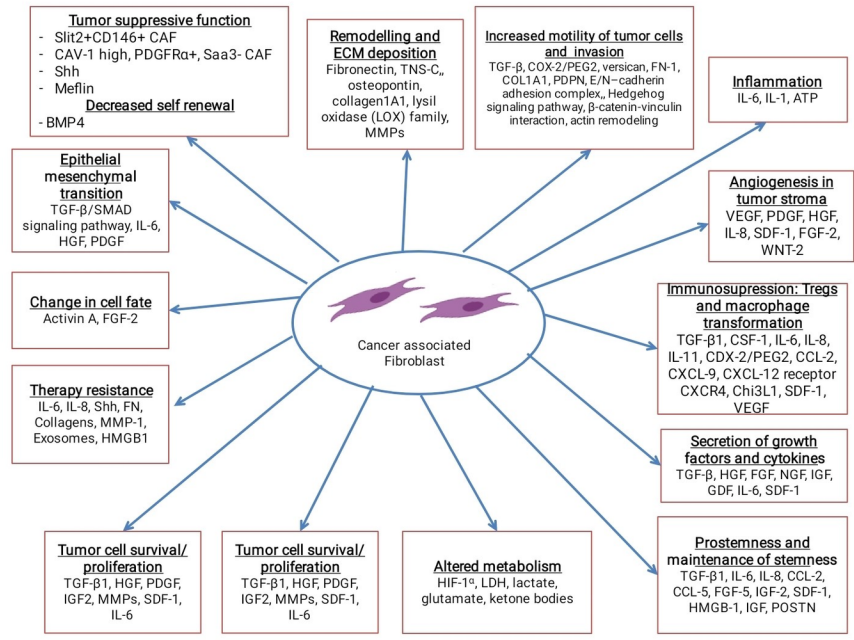
The past few decades have witnessed a major leap in knowledge relating to the role of tumor microenvironment in carcinogenesis and evolving behaviour of the tumor. Multiple factors within the tumor microenvironment modulate the cancer cells and the associated therapies. Stephen Paget first asserted that the microenvironment plays an important role in the growth of tumor metastasis. The most important player in the tumor microenvironment is cancer-associated fibroblast which significantly participates in the proliferation, invasion and metastasis of tumor cells. Cancer-associated fibroblasts show phenotypic and functional heterogeneity. Mostly cancer-associated fibroblasts originate from quiescent resident fibroblast or mesoderm-derived precursor cells (mesenchymal stem cells), although several alternate sources of origin have been noted, however, due to a lack of specific fibroblast-restricted markers, it is very difficult to trace lineage and identify the biological origin of distinct sub-types of CAFs. CAFs are predominantly shown by several studies to mainly act as tumor-promoting agents, however, tumour-inhibiting actions are also being validated by several studies. A more objectified and comprehensive functional and phenotypic classification of CAF is required, which will help in better way for tumor management. Here, in this review, we have tried to review the current status of CAF origin, along with phenotypic and functional heterogeneity, and recent progress in cancer-associated fibroblast (CAF) research.

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