Family with sequence similarity 83, member A attenuates aggressive properties of cervical cancer

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Objectives: FAM83A is recently found to be overexpressed in cancer and hypothesized to be oncogenic. This study is to illustrate the functional role and mechanism of FAM83A in cervical cancer.

Methods: 153 different clinical cervical specimens were used for validation by SYBR Green RT-qPCR and IHC. Cell proliferation, cell migration and invasion were done for functional validation. RNA-seq approach was applied to investigate the altered genes regulated by FAM83A.

Result 1: FAM83A is highly expressed in human cervical cancer tissues but inversely correlated with poor prognosis

Result 2: Knockdown of FAM83A promotes the aggressiveness of cervical cancer cells

Result 3 : FAM83A knockdown alters key signaling pathways and metastasis genes by RNA-seq

Result 4 : FAM83A inhibition activates multiple downstream genes mainly involved in oncogenic and metastatic-related pathways

Conclusion: our study identified unexpected and potent roles of FAM83A in cervical cancer. Understanding the exact role of FAM83A during cervical cancer progression and the molecular mechanisms by which FAM83A knockdown activates integrins will offer new insight into the biological basis of cancer progression and may lay the groundwork for future studies.