

腫瘍生物学と TGF- β 信号伝達 (Seong-Jin Kim) Tumor Biology and TGF- β Signaling (Seong-Jin Kim)



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TGF- β とそのシグナル伝達機構

最近の研究によりTGF- β とそのシグナル伝達が癌の腫瘍形成、転移に深く関わり、重要な役割を果たしていることが明らかになってきました。TGF- β 阻害剤がTGF- β で誘導される癌の進展、転移を抑制し、さらに抗腫瘍免疫を増強することから、この薬剤の持つ抗癌作用が期待されています。我々の研究室ではこのTGF- β が惹起する腫瘍進展作用、悪性形質へ転換機構を、in vivoの実験に力点を置き、詳細に解析を進めています。TGF- β 作動薬、阻害剤を悪性腫瘍、免疫疾患の治療に如何に有効に適応するかを探る橋渡し研究 (Translational research)にも力を注いでいます。一方、癌患者サンプルを次世代シーケンシング(RNA-based NGS sequencing)を用いて解析することにより、浸潤性悪性腫瘍で発現する新規遺伝子、遺伝子変異の発見に努力しています。

TGF- β and its signaling pathway in tumorigenesis

Recent advances emphasize the importance of TGF- β and its signaling pathway in tumorigenesis and metastasis. TGF- β signaling inhibitors have shown promise in blocking the TGF- β -mediated tumor progression and metastasis, and enhancing antitumor immunity. Our Lab is trying to define important in vivo properties of TGF- β , with the intent to better understand how these activities participate in the processes of malignant transformation and tumor progression. Efforts are focused toward translational research, particularly the identification of therapeutic interventions based on successful application of either TGF- β agonists or antagonists in malignancy and in immune disorders. Our Lab is also focusing on identification of novel genes and novel genetic alterations involved in the invasive human cancers by the RNA-based NGS sequencing in cancer patients.

TGF- β 1 regulates the tumor microenvironment and promotes tumor growth and metastasis. TGF- β 1 is secreted by cancer cells in large quantities. TGF- β 1 inhibits immunity, promotes cancer cell metastasis and plays a major role in the development of anticancer drug resistance.

