Id-1 as a Marker for Advanced Prostate Cancer

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Id (inhibitor of differentiation or DNA binding) gene encodes a helix-loop-helix protein which dimerizes and blocks the basic HLH protein from binding DNA. It inhibits cell differentiation. It expresses mainly in actively dividing cells and first reported by Prof Wong's group to be involved in hormone-induced prostate cancer in the Noble rat model. They subsequently confirmed this in human prostate cancer. Through functional studies under in vitro system, his group has further demonstrated the role of Id-1 in prostate cancer progression and the signaling pathways involved. Their latest studies show that Id-1 may be crucial in the progression of prostate cancer from androgen-dependent (AD) to androgen-independent (AI) stage which is much more deadly. The talk will give an overview of the role of Id-1 in prostate carcinogenesis with emphasis on the molecular mechanism involved in the transformation of prostate cancer from AD to AI.