Role of the epithelial-mesenchymal transition regulator Slug in primary human cancers.

Abstract:
Epithelial-mesenchymal-transition (EMT) is a crucial process during morphogenesis of multi-cellular organisms. EMT not only is a normal developmental process but also plays a role in tumor invasion and metastasis. Indeed, molecules involved in EMT, such as the transcription factor and E-cadherin repressor Slug (SNAI2), have recently been demonstrated to be important for cancer cells to down-regulate epithelial markers and up-regulate mesenchymal markers in order to become motile and invasive. Here we summarize major studies focusing on Slug expression in human tumor samples. We review a total of 13 studies involving 1150 cases from 9 different types of tumors. It is becoming clear that this transcription factor plays a role in the progression of some tumor types, including breast and gastric cancer. Interestingly, Slug expression is not always associated with down-regulation of E-cadherin. The mode of action, the signaling pathways involved in its regulation, and the interplay with other EMT regulators need to be addressed in future studies in order to fully understand Slug's role in tumor progression.