**AST paradigm launches next generation anti-metastatic therapy**

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Our lab focuses on novel therapeutic strategies to target cancer metastasis. We discovered a novel biological phenomenon termed “Adherent-to-Suspension Transition” (AST) that reprograms cell morphology and anchorage dependency via defined factors. Remarkably, ectopic delivery of AST factors endows adherent cells with anchorage-independent growth by eliciting spontaneous cell rounding, cell-matrix dissociation, and anoikis resistance. In human pathophysiology, we have uncovered the critical role of AST factors during blood-borne metastasis of solid tumors, where spontaneous dissemination of primary tumors produces CTCs. Inhibition of AST factors in breast cancers dramatically attenuated cancer cell dissemination, CTC formation, lung metastasis, and prolonged survival without affecting primary tumor growth. Together, we aim to establish this novel paradigm to reveal undescribed mechanisms and key players underlying cancer dissemination and metastasis, and further develop new anti-metastatic drugs.