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## Cancer stem cells recapitulate the cell movements at the primitive Hensen's node and induce embryonic -like axis formation

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Tumorigenesis recapitulates a self-organizing process of early embryo development. We described and documented the selfassembly of pairs of ciliary- spiral patterns that rotate in simultaneous opposite directions particularly in cancer tissues. This rotational movement is reminiscent of cellular behavior governing organ formation in embryos at early developmental stages that closely mimics the phenotypic pattern of Hensen's node. We captured the dynamic nature of what we called dancing paired left-right node system, comprising two cell populations thereby producing two waves of opposite visible functional activity: Apoptotic cell death and stemness proliferative status, comparatively similar to the Hensen's node in witch nodal rotational flow is both necessary and sufficient to define the left side of the mouse embryo, revealing that only two rotating cilia are required to establish normal sidedness. We observed a highly immunostain-selective distribution of the Oct 4 antibody, a stem embryo marker, related to malignant cells organized in a rotational ciliary-spiral phenotype assemblage. Thus, this cancer Hensen- like node organizer induce embryonic-like axis formation, its fast identification, isolation and expansion could be used to develop new therapeutic strategies against cancer and in regenerative medicine.

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