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Titulo: Cellular regulation of collective cell migration.

Resumen:

Collective cell migration is fundamental for life and a hallmark of cancer. Using Neural crest cells, an embryonic migratory population, we evidence two different mechanisms regulating collective cell migration. Directionality of movement can arise as an emergent property of the group through cell-cell interaction or can be established by defining cells with distinct identities that perform specific task during migration. In the first case the group is homogenous with all cells presenting similar migratory capabilities. In the second, the group is heterogeneous, composed of leader cells that direct movement and follower cells that trail leader through contact. Using live cell imaging, quantitative analysis and single cell ablation experiments in chick and zebrafish embryos, we show that NCs at different axial levels use either of these strategies during their migration. Our data implies the existence of multiple and perhaps mutually exclusive molecular mechanisms regulating collective cell migration.