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Arkarachai Fungtammasan, Erin Walsh, Francesca Chiaromonte, Kristin A. Eckert, and Kateryna D. Makova

^{OA}Open Access paper



Cover X Chromosome inactivation (XCI) is a key event during embryonic development. However, its relationship with pluripotency and differentiation has never been examined at the single-cell level. In this issue, a new study takes advantage of single-cell RNA sequencing combined with allelic resolution to digitalize XCI progression. The investigators found a profound variability of XCI states in different developmental states and asynchronicity of XCI with loss of pluripotency and increase of differentiation at the single-cell level. The illustration depicts XCI silencing in individual cells. (Cover illustration by Mina and Mattias Karlen. [For details, see Chen et al., pp. 1342–1354.]