

Figures and Figure Legends:

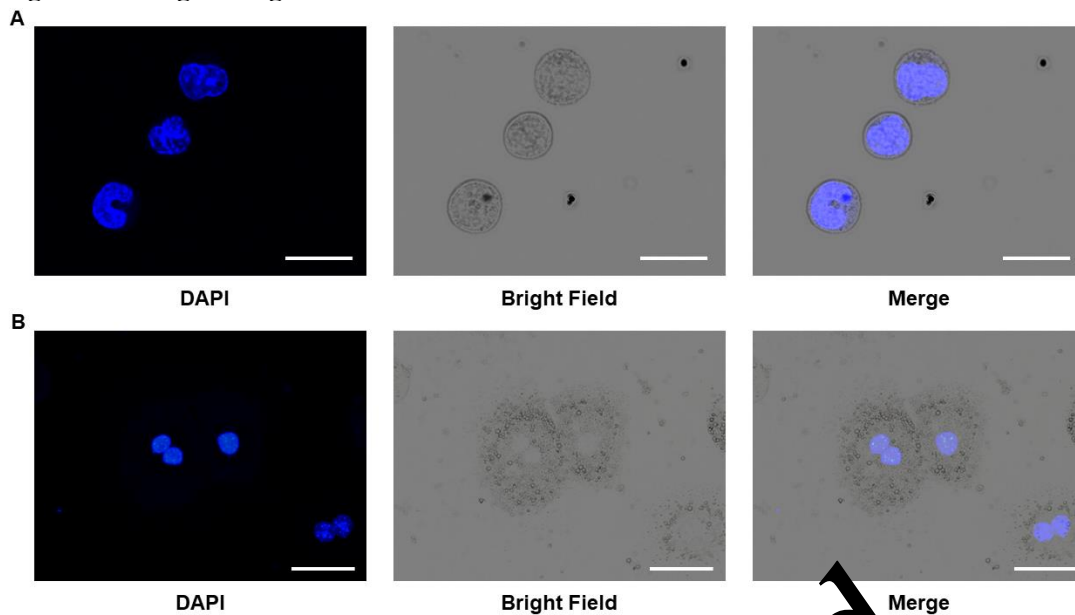


Fig. 1 Illustration showing different nucleations of endomitosis in megakaryocytes and hepatocytes.

The immunofluorescence images of endomitotic megakaryocytes and hepatocytes. (A) Polyploid megakaryocytes are typically mononucleated, possessing a single nucleus that is multilobulated. Nuclei of polyploid megakaryocytes stained with DAPI (left), bright field image (middle), and merged image (right). Scale bars, 15 μ m. (B) Polyploid hepatocytes are mononucleated or binucleated. Nuclei of polyploid hepatocytes stained with DAPI (left), bright field image (middle), and merged image (right). Scale bars, 30 μ m.

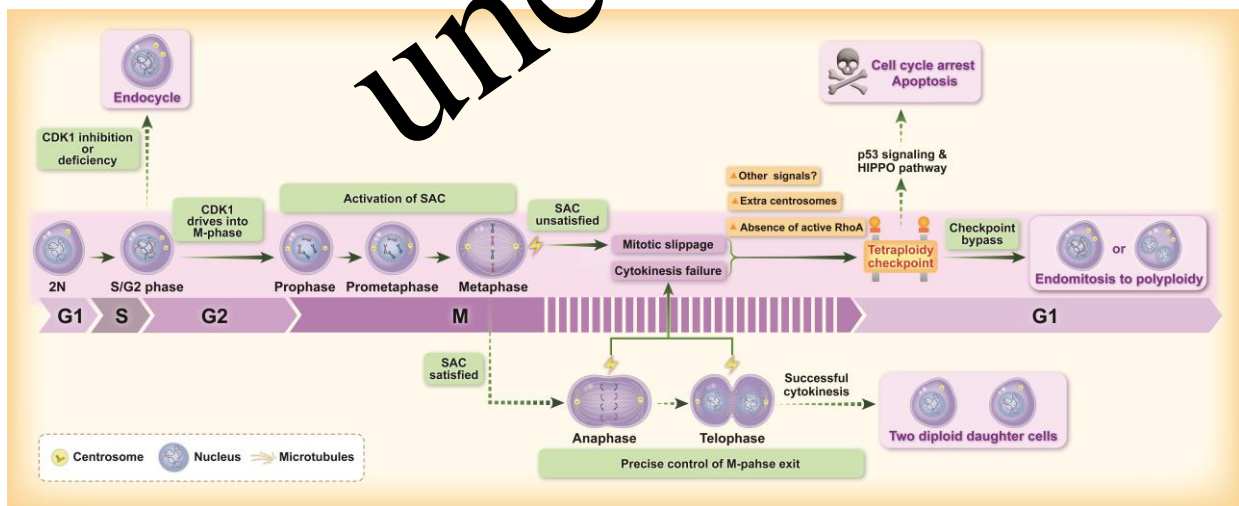


Fig. 2 Crossroads of endomitotic cell fate decision

Endomitotic cells can enter and exit mitosis without undergoing complete cytokinesis. During endomitosis, cells manipulate multiple critical events in the cell cycle and bypass the tetraploidy checkpoint, thereby achieving polyploidy. The solid arrows in the schematic illustration represent the canonical route of endomitosis cell fate, while the dashed arrows indicate alternative cell fates, such as endocycle, mitosis, and cell death induced by the tetraploidy checkpoint. CDK1, cyclin dependent kinase 1; SAC, spindle assembly checkpoint; RhoA, Ras homolog family member A.