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Contents

Commentary

Articles

Contents continued

Cover picture: In the process of megakaryopoiesis, megakaryocyte progenitor cells stop mitosis and enter endomitosis, during which neither cytoplasm nor nucleus divides but DNA replication occurs. This process gives rise to polyploid immature megakaryocytes, followed by maturation of their cytoplasm as platelet proteins are synthesized and α-granules packing numerous procoagulant substances are formed within the cytoplasm. The mature megakaryocyes then shed platelets. The cover image, produced by bone marrow smears from wild-type mice, shows megakaryocytes that are morphologically identifiable at the mature stage. Megakaryocytes in $Hzf^{-/-}$ mice underwent complete differentiation based on DNA ploidy analysis. However, electron microscopic analysis revealed that *Hzf*-deficient mice produced megakaryocytes with vacant α-granules. The data indicate that *Hzf* deficiency interferes with the synthesis of α-granule substances and/or their packing into α-granules during megakaryocyte development. See related article by Kimura et al., pp. 941–952.