

bidding at various steps of the metastatic cascade, including the colonization of ectopic tissues. The Karnoub *et al.*<sup>4</sup> report contributes to the many studies that show how metastatic cells compensate for intrinsic defects or supplement essential pathways by taking advantage of stem cells to assist them in various steps of the metastatic cascade (Fig. 1).

The 'take-home' message from all of these studies is that the most lethal attributes of tumor cells are not going to be neutralized if the research community blindly looks only at the tumor cell or only at the stroma—the interactions between the two are crucial. Although the complexity of these interac-

tions is daunting, the silver lining is that stem cells may provide researchers with new targets to focus future therapies on. Just as importantly, some of the dusty hypotheses related to mechanisms of metastasis should be revisited because of this new understanding of cellular interactions. As neoplastic cells evolve toward aggressive metastatic behavior, a missing link may now be found in the recruited cell populations.

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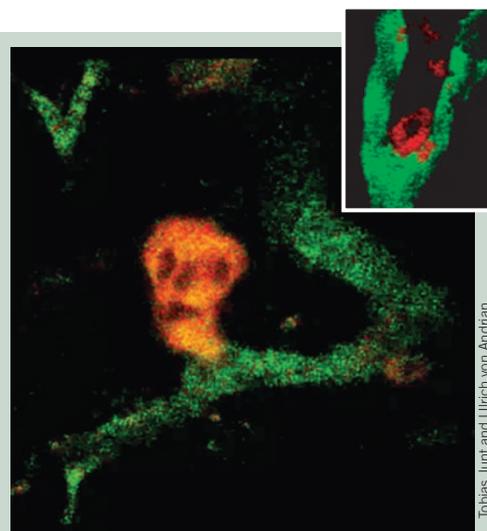
### Platelets budding off the mothership

Ace microscopists have captured the bizarre process of platelet formation in real time and in color (*Science* **317**, 1767–1770).

Platelets bud off of a massive precursor cell, the megakaryocyte. Ulrich von Andrian and his colleagues—noted for their movies of immune cells in action—observed that megakaryocytes associate closely with sinusoids, nascent blood vessels in the bone marrow (shown here). The megakaryocyte then extends protrusions, dubbed 'plump perivascular pseudopodia', which enter the blood vessels. These protrusions are sheared off by the force of blood moving through the vessel and shed platelets into the bloodstream. The findings solidify conclusions from previous observations in culture and with still microscopy.

The human body creates approximately  $1 \times 10^{11}$  new platelets each day.

—Charlotte Schubert



Boo! A megakaryocyte (red; darker areas are presumably nuclei) associated closely with a bone marrow sinusoid (green). Inset: pseudopodia extending into the vessel.

Tobias Junt and Ulrich von Andrian