



Free
blood app

COVER FIGURE

Intraaortic hematopoietic cell clusters (IAHCs) are observed in the aorta of most vertebrate species and contain the first hematopoietic stem cells generated during embryonic development. This scanning electron microscopy image shows an IAHC (yellow) tightly attached to the endothelial layer (pink) of the aorta of an E10 mouse embryo (magnification $\times 1600$). The subaortic mesenchyme is also artificially colored (blue) to show the delimitation between the different structures. See the article by Boisset et al on page 465.

INSIDE BLOOD COMMENTARIES

- 419 **Coagulation takes center stage in inflammation**
Katerina Akassoglou
Comment on Raghu et al, page 427
- 420 **Langerhans cells: straight from blood to skin?**
Nikolaus Romani and James W. Young
Comment on Milne et al, page 470
- 422 **Mutations of ETNK1 in aCML and CMML**
Olivier Kosmider
Comment on Gambacorti-Passerini et al, page 499
- 423 **Platelet GPIb: sensing force and responding**
Zaverio M. Ruggeri
Comment on Zhang et al, page 562
- 424 **Anti-common γ -chain antibody: one for all in GVHD**
José A. Pérez-Simón
Comment on Hechinger et al, page 570

PLENARY PAPER

- 427 **Transglutaminase factor XIII promotes arthritis through mechanisms linked to inflammation and bone erosion**
Harini Raghu, Carolina Cruz, Cheryl L. Rewerts, Malinda D. Frederick, Sherry Thornton, Eric S. Mullins, Jonathan G. Schoenecker, Jay L. Degen, and Matthew J. Flick

HOW I TREAT

- 438 **How I treat poisoning with vitamin K antagonists**
Sol Schulman and Bruce Furie

CLINICAL TRIALS AND OBSERVATIONS

- 443 **Dinaciclib, a novel CDK inhibitor, demonstrates encouraging single-agent activity in patients with relapsed multiple myeloma**
Shaji K. Kumar, Betsy LaPlant, Wee Joo Chng, Jeffrey Zonder, Natalie Callander, Rafael Fonseca, Briant Fruth, Vivek Roy, Charles Erlichman, and A. Keith Stewart, for the Mayo Phase 2 Consortium
- 449 **Phase 2 study of carfilzomib, thalidomide, and dexamethasone as induction/consolidation therapy for newly diagnosed multiple myeloma**
Pieter Sonneveld, Emilie Asselbergs, Sonja Zweegman, Bronno van der Holt, Marie Jose Kersten, Edo Vellenga, Marinus van Marwijk-Kooy, Annemiek Broyl, Okke de Weerd, Sarah Lonergan, Antonio Palumbo, and Henk Lokhorst

HEMATOPOIESIS AND
STEM CELLS

- 457 **Limited niche availability suppresses murine intrathymic dendritic-cell development from noncommitted progenitors**
Marcin Lyszkiewicz, Natalia Ziętara, Lisa Föhse, Jacek Puchałka, Jana Diestelhorst, Katrin Witzlau, Immo Prinz, Axel Schambach, and Andreas Krueger
- 465 **Brief Report**
Progressive maturation toward hematopoietic stem cells in the mouse embryo aorta
Jean-Charles Boisset, Thomas Clapes, Anna Klaus, Natalie Papazian, Jos Onderwater, Mieke Mommaas-Kienhuis, Tom Cupedo, and Catherine Robin

IMMUNOBIOLOGY

- 470 **Brief Report**
CD1c⁺ blood dendritic cells have Langerhans cell potential
Paul Milne, Venetia Bigley, Merry Gunawan, Muzlifah Haniffa, and Matthew Collin

LYMPHOID NEOPLASIA

- 474 **ATL response to arsenic/interferon therapy is triggered by SUMO/PML/RNF4-dependent Tax degradation**
Zeina Dassouki, Umut Sahin, Hiba El Hajj, Florence Jollivet, Youmna Kfoury, Valérie Lallemand-Breitenbach, Olivier Hermine, Hugues de Thé, and Ali Bazarbachi
- 483 **RNA interference screening identifies lenalidomide sensitizers in multiple myeloma, including RSK2**
Yuan Xiao Zhu, Hongwei Yin, Laura A. Bruins, Chang-Xin Shi, Patrick Jedlowski, Meraj Aziz, Chris Sereduk, Klaus Martin Kortuem, Jessica E. Schmidt, Mia Champion, Esteban Braggio, and A. Keith Stewart
- 492 **Deep sequencing identifies genetic heterogeneity and recurrent convergent evolution in chronic lymphocytic leukemia**
Juhi Ojha, Jackline Ayres, Charla Secreto, Renee Tschumper, Kari Rabe, Daniel Van Dyke, Susan Slager, Tait Shanafelt, Rafael Fonseca, Neil E. Kay, and Esteban Braggio

MYELOID NEOPLASIA

- 499 **Recurrent *ETNK1* mutations in atypical chronic myeloid leukemia**
Carlo B. Gambacorti-Passerini, Carla Donadoni, Andrea Parmiani, Alessandra Pirola, Sara Redaelli, Giovanni Signore, Vincenzo Piazza, Luca Malcovati, Diletta Fontana, Roberta Spinelli, Vera Magistroni, Giuseppe Gaipa, Marco Peronaci, Alessandro Morotti, Cristina Panuzzo, Giuseppe Saglio, Emilio Usala, Dong-Wook Kim, Delphine Rea, Konstantinos Zervakis, Nora Viniou, Argiris Symeonidis, Heiko Becker, Jacqueline Boultonwood, Leonardo Campiotti, Matteo Carrabba, Elena Elli, Graham R. Bignell, Elli Papaemmanuil, Peter J. Campbell, Mario Cazzola, and Rocco Piazza
- 504 **Disruption of IKAROS activity in primitive chronic-phase CML cells mimics myeloid disease progression**
Philip A. Beer, David J. H. F. Knapp, Paul H. Miller, Nagarajan Kannan, Ivan Sloma, Kathy Heel, Sonja Babovic, Elizabeth Bulaeva, Gabrielle Rabu, Jefferson Terry, Brian J. Druker, Marc M. Loriaux, Keith R. Loeb, Jerald P. Radich, Wendy N. Erber, and Connie J. Eaves
- 516 **Subclonal mutations in *SETBP1* confer a poor prognosis in juvenile myelomonocytic leukemia**
Elliot Stieglitz, Camille B. Troup, Laura C. Gelston, John Haliburton, Eric D. Chow, Kristie B. Yu, Jon Akutagawa, Amaro N. Taylor-Weiner, Y. Lucy Liu, Yong-Dong Wang, Kyle Beckman, Peter D. Emanuel, Benjamin S. Braun, Adam Abate, Robert B. Gerbing, Todd A. Alonzo, and Mignon L. Loh

PLATELETS AND
THROMBOPOIESIS

- 525 **Myosin-II repression favors pre/proplatelets but shear activation generates platelets and fails in macrothrombocytopenia**
Kyle R. Spinler, Jae-Won Shin, Michele P. Lambert, and Dennis E. Discher

**RED CELLS, IRON, AND
ERYTHROPOIESIS**

- 534 **Red cells from ferrochelatase-deficient erythropoietic protoporphyria patients are resistant to growth of malarial parasites**
Clare M. Smith, Ante Jerkovic, Hervé Puy, Ingrid Winship, Jean-Charles Deybach, Laurent Gouya, Giel van Dooren, Christopher Dean Goodman, Angelika Sturm, Hana Manceau, Geoffrey Ian McFadden, Peter David, Odile Mercereau-Puijalon, Gaétan Burgio, Brendan J. McMorran, and Simon J. Foote
- 542 **Cell rigidity and shape override CD47's "self"-signaling in phagocytosis by hyperactivating myosin-II**
Nisha G. Sosale, Tahereh Rouhiparkouhi, Andrew M. Bradshaw, Rumiana Dimova, Reinhard Lipowsky, and Dennis E. Discher

**THROMBOSIS AND
HEMOSTASIS**

- 553 **CME Article**
Natural history of patients with congenital dysfibrinogenemia
Alessandro Casini, Marc Blondon, Aurélien Lebreton, Jérémie Koegel, Véronique Tintillier, Emmanuel de Maistre, Philippe Gautier, Christine Biron, Marguerite Neerman-Arbez, and Philippe de Moerloose
- 562 **Identification of a juxtamembrane mechanosensitive domain in the platelet mechanosensor glycoprotein Ib-IX complex**
Wei Zhang, Wei Deng, Liang Zhou, Yan Xu, Wenjun Yang, Xin Liang, Yizhen Wang, John D. Kulman, X. Frank Zhang, and Renhao Li

TRANSPLANTATION

- 570 **Therapeutic activity of multiple common γ -chain cytokine inhibition in acute and chronic GVHD**
Anne-Kathrin Hechinger, Benjamin A. H. Smith, Ryan Flynn, Kathrin Hanke, Cameron McDonald-Hyman, Patricia A. Taylor, Dietmar Pfeifer, Björn Hackanson, Franziska Leonhardt, Gabriele Prinz, Heide Dierbach, Annette Schmitt-Graeff, Jiri Kovarik, Bruce R. Blazar, and Robert Zeiser

CONTINUING MEDICAL EDUCATION (CME) QUESTIONS

- 581 **Follow-up of congenital dysfibrinogenemia**

OTHER DEPARTMENTS

- iii **Classifieds**

SUBMISSION INSTRUCTIONS

All manuscripts, including figures, should be submitted electronically at <http://submit.bloodjournal.org> to Editor-in-Chief Bob Löwenberg, MD, PhD. Before submitting your paper, review *Blood's* Author Guide at <http://bloodjournal.hematologylibrary.org/site/authors/authorguide.xhtml>. If you need help during the submission process, contact the Editorial Office by phone at 202-776-0548 or via e-mail at editorial@hematology.org.