

Frontiers Research Topic

**Adverse Reactions to Biomaterials: State of the Art in Biomaterial Risk Assessment, Immunomodulation and In Vitro Models for Biomaterial Testing**

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Overview of the articles

**The importance of controlled mismatch of biomechanical compliances of implantable scaffolds and native tissue for articular cartilage regeneration**, Michael Gasik, Alexandra Zühlke, Anne-Marie Haaparanta, Virpi Muhonen, Kaisa Laine, Yevgen Bilotsky, Minna Kellomäki and Ilkka Kiviranta., 16 November 2018.

**Photocrosslinkable Gelatin Hydrogels Modulate the Production of the Major Pro-inflammatory Cytokine, TNF- $\alpha$ , by Human Mononuclear Cells**, Amy R. Donaldson, Constantin Edi Tanase, Dennis Awuah, Pranav Vasanthi Bathrinarayanan, Laurence Hall, Mehdi Nikkhah, Ali Khademhosseini, Felicity Rose, Cameron Alexander and Amir M. Ghaemmaghami, 19 September 2018.

**In vitro Models and On-Chip Systems: Biomaterial Interaction Studies With Tissues Generated Using Lung Epithelial and Liver Metabolic Cell Lines**, Milica Nikolic , Tijana Sustersic and Nenad Filipovic, 03 September 2018.

**Immune Assisted Tissue Engineering via Incorporation of Macrophages in Cell-Laden Hydrogels Under Cytokine Stimulation**, Julien Barthes , Camille Dollinger, Celine B. Muller, Urmas Liivas, Agnes Dupret-Bories, Helena Knopf-Marques and Nihal E. Vrana, 20 August 2018.

**In vivo Implantation of a Bovine-Derived Collagen Membrane Leads to Changes in the Physiological Cellular Pattern of Wound Healing by the Induction of Multinucleated Giant Cells: An Adverse Reaction?**, Sarah Al-Maawi , Chakorn Vorakulpipat, Anna Orłowska , Tomislav A. Zrnc, Robert A. Sader, C James Kirkpatrick and Shahram Ghanaati, 14 August 2018.

**Skin Tissue Substitutes and Biomaterial Risk Assessment and Testing**, Houman Savoji , Brent Godau , Mohsen Sheikh Hassani and Mohsen Akbari, 26 July 2018.





**Blood-Contacting Biomaterials: In Vitro Evaluation of the Hemocompatibility**, Marbod Weber , Heidrun Steinle, Sonia Golombek, Ludmilla Hann, Christian Schlensak, Hans P. Wendel and Meltem Avci-Adali, 16 July 2018.

**Designed Surface Topographies Control ICAM-1 Expression in Tonsil-Derived Human Stromal Cells**, Aliaksei S. Vasilevich , Frédéric Mourcin , Anouk Mentink , Frits Hulshof , Nick Beijer, Yiping Zhao, Marloes Levers , Bernke Papenburg, Shantanu Singh , Anne E. Carpenter , Dimitrios Stamatialis , Clemens van Blitterswijk, Karin Tarte and Jan de Boer, 28 June 2018.

**An Effective Translation: The Development of Hyaluronan-Based Medical Products From the Physicochemical, and Preclinical Aspects**, Gloria Huerta-Ángeles , Kristina Nešporová, Gabriela Ambrožová, Lukas Kubala and Vladimír Velebný, 17 May 2018.

**Zeta Potential Measurements on Solid Surfaces for in Vitro Biomaterials Testing: Surface Charge, Reactivity Upon Contact With Fluids and Protein Absorption**, Sara Ferraris , Martina Cazzola , Veronica Peretti , Barbara Stella and Silvia Spriano, 09 May 2018.

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