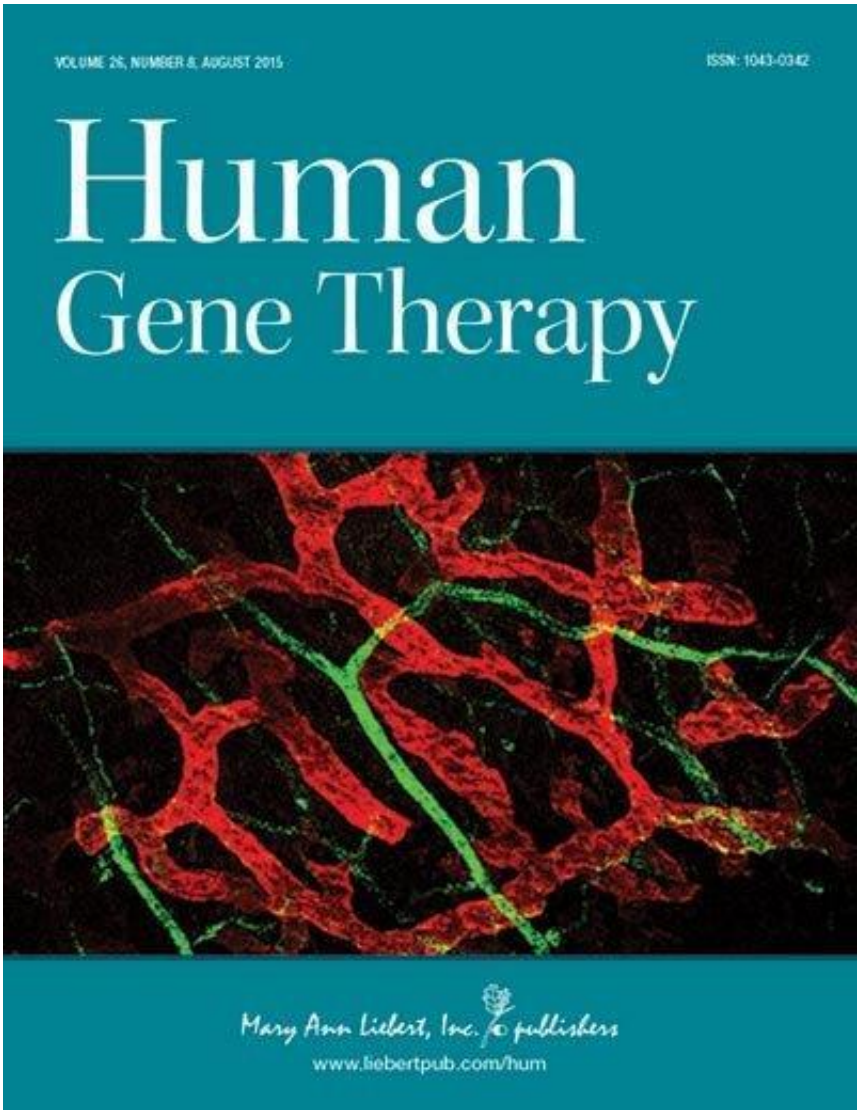
Optimizing effectiveness of CAR T cell therapy in lymphoma highlighted

August 24 2015



Credit: Mary Ann Liebert, Inc., publishers

Chimeric antigen receptor (CAR) T cells, which can specifically recognize and target tumor cells, have resulted in complete responses in patients with leukemia, and although equally promising for treating lymphoma, obstacles remain and individual patient responses CAR T cell therapy have varied. The main barriers to overcome in developing the next generation of CAR T cell therapy are presented in a Review article that is part of a special Nordic issue of *Human Gene Therapy*.

In "CAR T Cell Therapy - The Role of Physical Barriers and Immunosuppression in Lymphoma", coauthors Gunilla Enblad, Hannah Karlsson, and Angelica Loskog, Uppsala University, Sweden, describe a study in which they are evaluating factors related to tumor biology and immunology compared to treatment response in patients with lymphoma participating in a clinical trial of third-generation CAR T cells. The authors explore topics such as CAR T cell design, physical barriers that prevent the cells from infiltrating into tumors, inhibitory substances released by tumors that directly interfere with T cell growth and activity, and the importance of preconditioning therapy for patients receiving treatment with CAR T cells.

Leading the special Nordic issue of *Human Gene Therapy* is Guest Editor Johanna Laakkonen, PhD, University of Eastern Finland, Kuopio, with Co-Guest Editors Hanna Lesch, FKD Therapies, Kuopio, Finland, and C.I. Edvard Smith, Karolinska Institutet, Karolinska University Hospital Huddinge, Sweden.

"CAR T cell technology is revolutionizing immunotherapy for cancer. This new original work defines important barriers to fully realizing its potential in patients with lymphoma," says Editor-in-Chief Terence R. Flotte, MD, Celia and Isaac Haidak Professor of Medical Education and Dean, Provost, and Executive Deputy Chancellor, University of Massachusetts Medical School, Worcester, MA.

More information: The article is available free on the *Human Gene Therapy* website until September 30, 2015.

Provided by Mary Ann Liebert, Inc