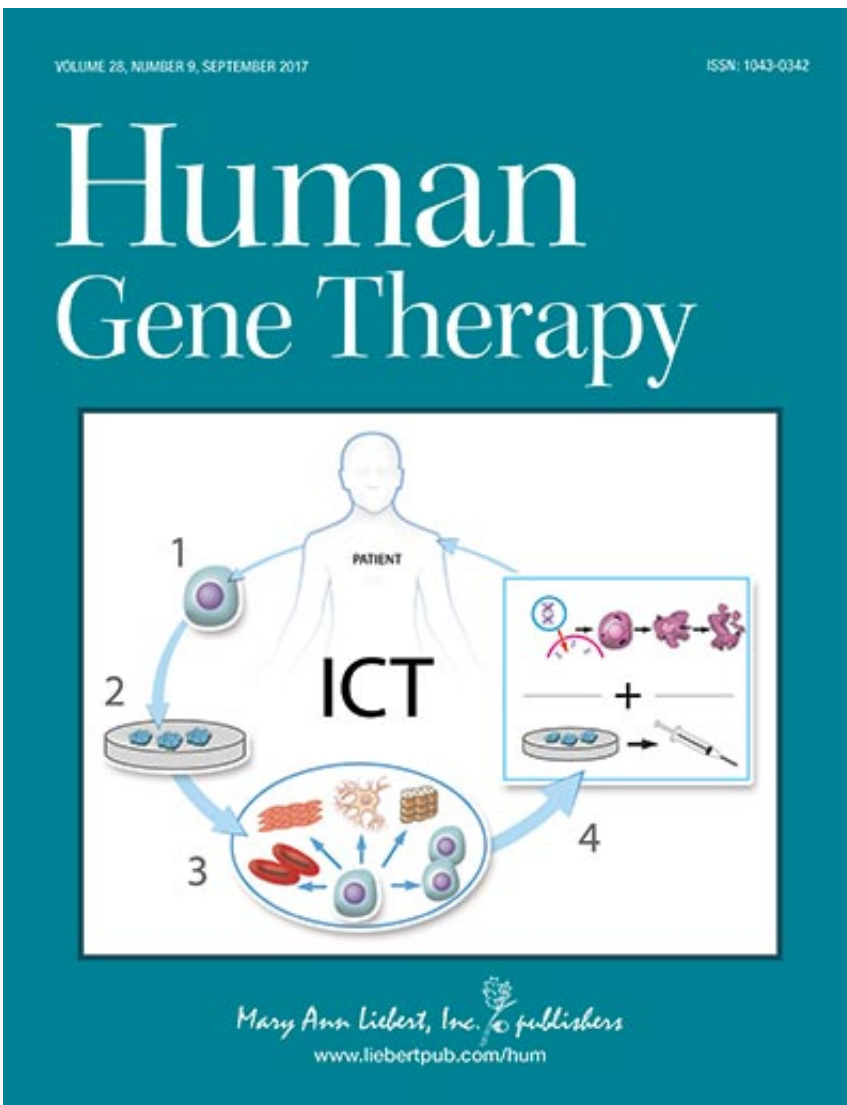


New gene delivery approach could allow long-term persistence in proliferating cells

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Credit: Mary Ann Liebert, Inc., publishers

Researchers added a scaffold/matrix attachment region (S/MAR) to a conventional adeno-associated virus (AAV) vector used for gene transfer, and the modified vectors were able to establish colonies and maintain long-term transgene expression in HeLa cells, as reported in *Human Gene Therapy*.

Hildegard Büning, PhD, Hannover Medical School, Germany and colleagues from University of Witten/Herdecke and University of Cologne, University Hospital Cologne, and German Center for Infection Research, Germany, and Cairo University, Egypt coauthored the article entitled " S/MAR Element Facilitates Episomal Long-Term Persistence of Adeno-Associated Virus Vector Genomes in Proliferating Cells." This novel approach, if applicable in other cell types, could help overcome the limitation of being able only to use AAV vectors for [gene transfer](#) to proliferating cells. In an unexpected finding, the researchers also showed that even AAV vectors lacking the S/MAR element were able to establish stable transgene-expressing colonies in HeLa cells.

"AAV vectors have so far been most useful in terminally differentiated cells, like neurons and [photoreceptor cells](#), but this advance could greatly expand the utility of AAV vectors in actively dividing cells," 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: Claudia Hagedorn et al, S/MAR Element Facilitates Episomal Long-Term Persistence of Adeno-Associated Virus Vector Genomes in Proliferating Cells, *Human Gene Therapy* (2017). [DOI: 10.1089/hum.2017.025](https://doi.org/10.1089/hum.2017.025)

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