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Cover RNA-guided endonucleases (RGENs), which consist of Cas9 protein and guide RNA, are a promising tool for genome editing. However, plasmid-mediated delivery of these two RGEN components is associated with several problems, including the possibility of uncontrolled integration of the plasmid sequence into the host genome. Two reports in this issue describe alternatives: complexing Cas9 protein and guide RNA with a cell-penetrating peptide (CPP) to allow direct delivery into human cells or using electroporation to cause cells to take up Cas9 ribonucleoproteins. In the illustration, RGENs (represented by scissors) have been delivered into human cells either spontaneously, using a CPP, or by electroporation, after which the RGENs cut a DNA strand at a defined location. The cobblestone-like images at the four corners of the illustration represent scanning electron microscopic images of the guide RNA complexed with CPP. (Cover illustration by Dong Hwan Kim, Jin Young Kim, Suresh Ramakrishna, and Hyongbum Kim. [For details, see Kim et al., pp. 1012–1019 and Ramakrishna et al., pp. 1020–1027.])