GENETICS, SOFTWARE

SAFETY CONDITIONS FOR GENOME EDITING

13.03.2017

I would like to see two points added to current CRISPR/Cas9 guidelines.

First of all, the current gene therapies are not being entered into the clinical trial databases on a regular basis. Maybe as the number of treated patients go down to a single individual or as there is no control group. I would really like the recommendation of a priori entry into clinicaltrials.gov or clinicaltrialsregister.eu (or some newly designed gene therapy databases). Just to get towards a clear risk/ benefit ratio.

Second, there should be some way to recognize gene editing. Some barcode as we used it already long ago, an artificial sequence that indicates the new insert. epigenie.com summarized the current approaches by last summer: Gestalt/Jay Shendure, barcode/Stephen R. Quake, scartrace/Jan Philipp Junker, hgRNA/Prasant Mali, mScribe/Tim Lu. Something like the FLAG-tag. Or more recently

R. Kalhor et al., “Rapidly evolving homing CRISPRbarcodes,” Nature Methods, doi:10.1038/nmeth.4108, 2016.
S.D. Perli et al., “Continuous genetic recording with self-targeting CRISPR-Cas in human cells,” Science, doi: 10.1126/science.aag0511, 2016.