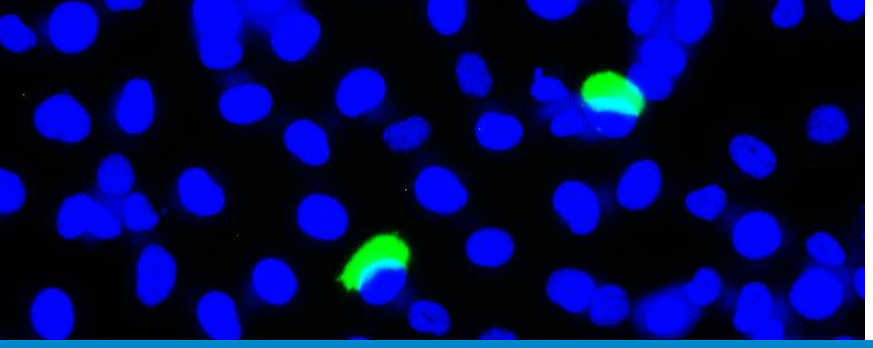


NMI TT Pharmaservices

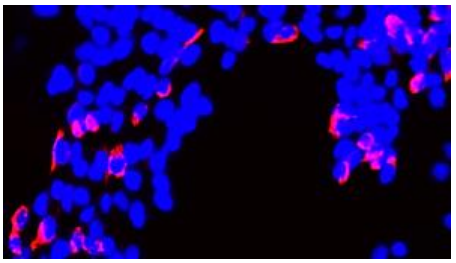
Genome Editing by CRISPR/Cas9

Experience You Can Trust

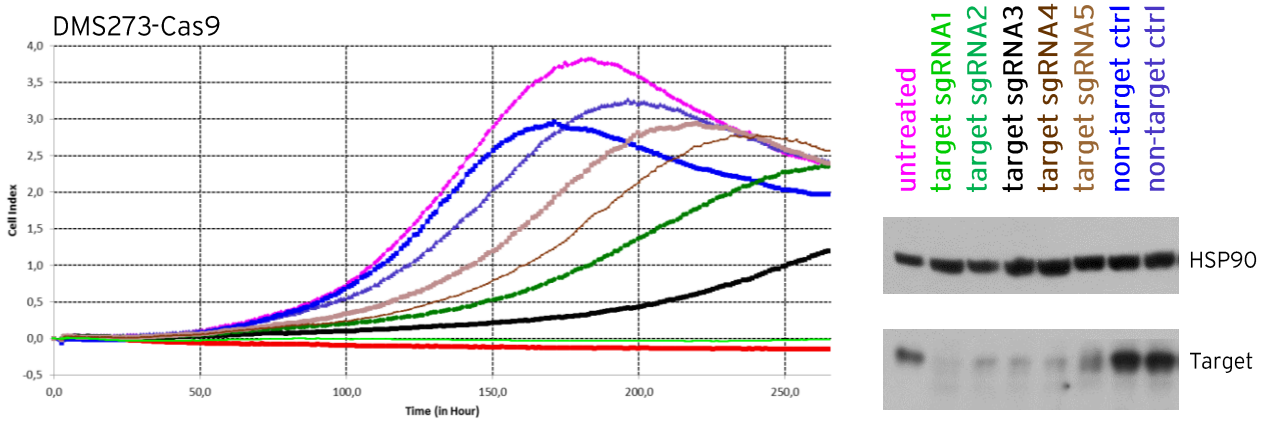
- Based on over a decade of expertise in generating customized cell lines, we are providing CRISPR-edited cell lines. And we have acquired commercial licenses for full FTO.
- Also, we apply both CRISPR/Cas9 and RNAi-mediated target silencing for target validation. Target phenotypes are analysed through various cell-based assays, and gene knockout/ knock-down is verified at the mRNA and protein level.

Our Offerings

- Introduction of specifically site-directed double stand breaks using CRISPR/Cas9
- Generation of target-defective cell lines
- Larger deletions by two double strand breaks
- Insertion of specific mutations or extensions into the DNA locus with ectopic repair templates. Endogenous tags like FLAG, haemagglutinin or GFP fusion proteins are possible.



HSP60 was C-terminally complemented with an hemagglutinin/HA tag (Cy3, HEK293 cells).



Impedance measurement (xCELLigence®): Cell proliferation inhibition by stable sgRNA-mediated target protein knockout. Human tumour cell line DMS273 was lentivirally complemented with Cas9. The resulting stable DMS273-Cas9 cell line was transduced with targeting sgRNA lentiviruses and proliferation was monitored by continuous impedance measurement.

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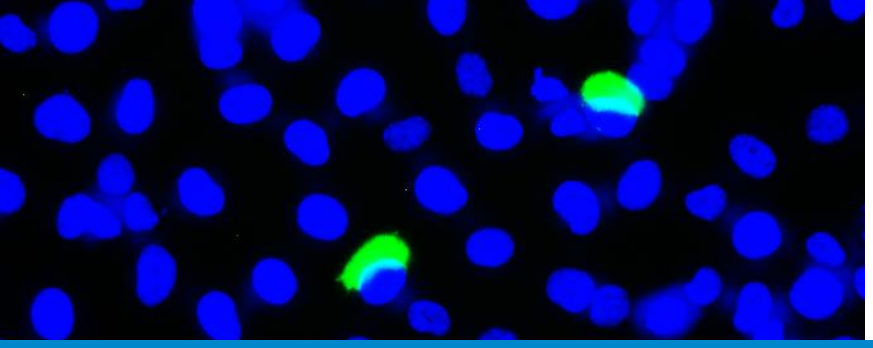
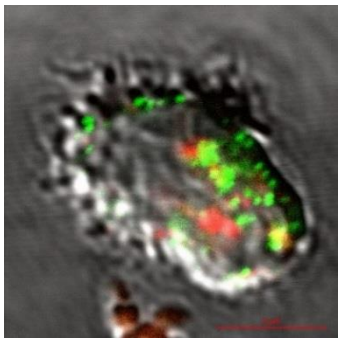


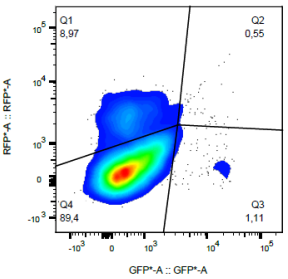
NMI TT Pharmaservices

CRISPR/Cas9 in Patient-Derived Cell Models

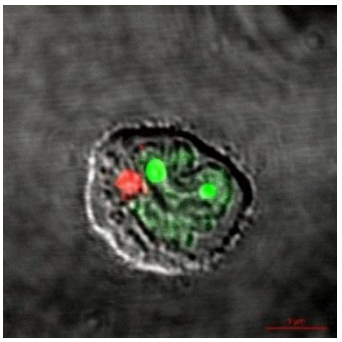
Case Study: CRISPR Editing of Primary T Cells

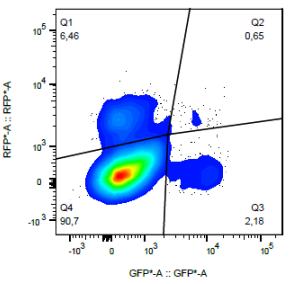
- We can efficiently modify endogenous genes of patient-derived T cells using homology-directed repair. Desired cell sub-fractions are isolated by FACS and subsequently expanded.





CLTA-GFP / RAB11A-RFP





FBL-GFP / RAB11A-RFP

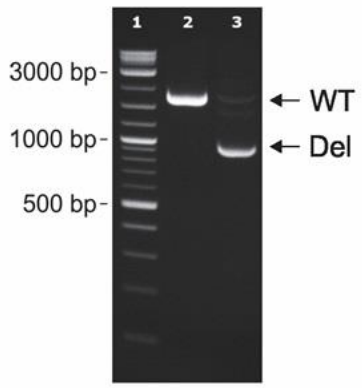
Case Study: CRISPR Editing of hiPSC Disease Models

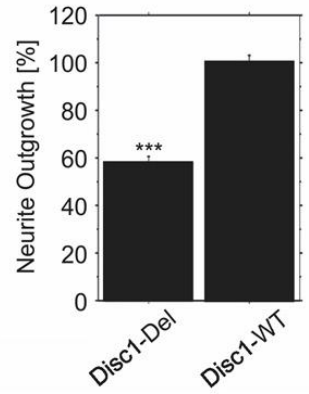
Biopsy material (e.g. skin) from **clinically diagnosed individuals** for generation of hiPSCs

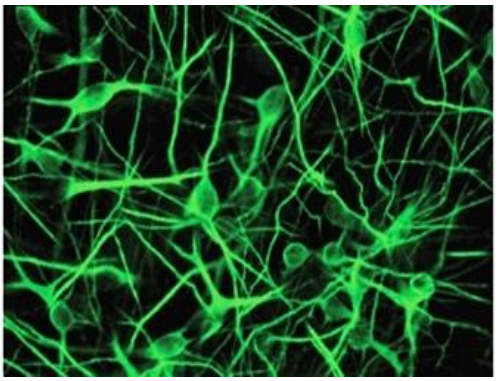
- Identify and validate disease-causing targets and mechanisms

Genome editing in established hiPSC lines to generate synthetic human disease models

- Study defined disease-causing mutations or alleles and isogenic cell models







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