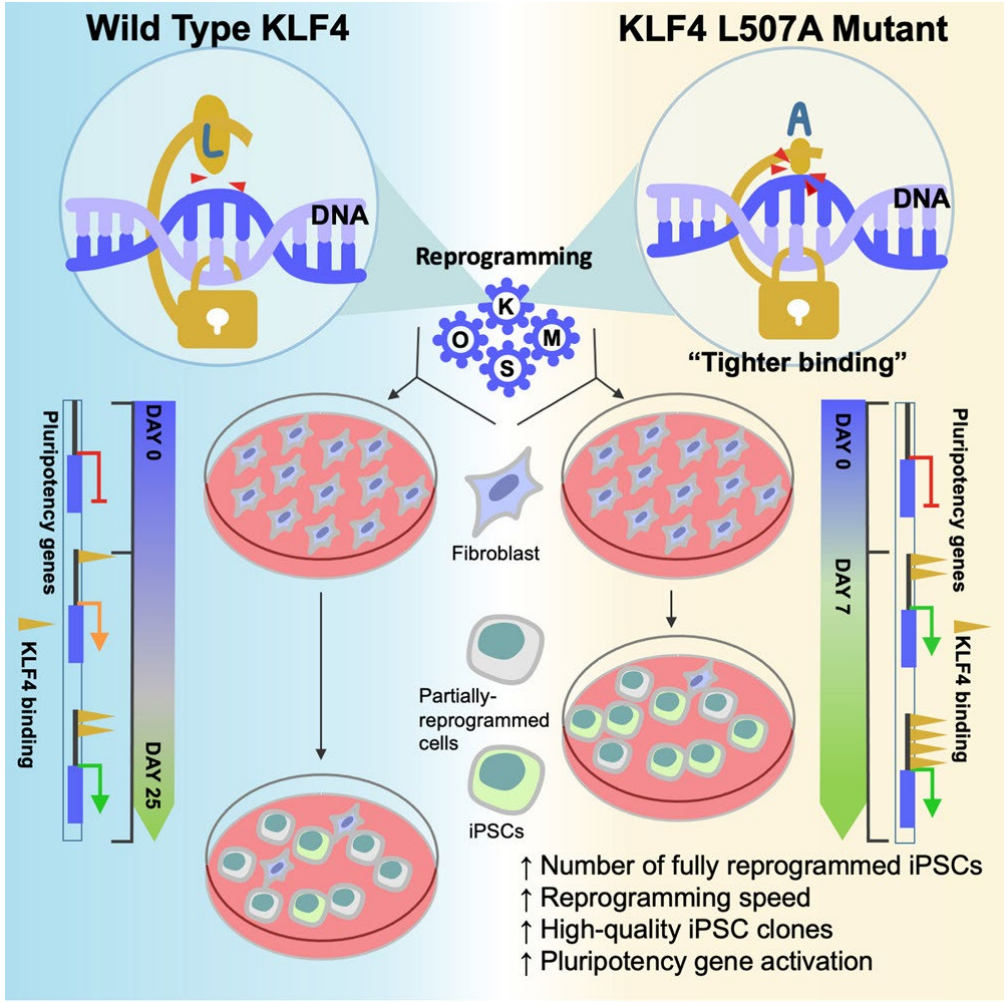
From Laboratory of Gene Regulation

Structurally-discovered KLF4 variants accelerate and stabilize reprogramming to pluripotency.



We screened DNA interacting amino acid residues in the zinc-finger domain of KLF4 for enhanced reprogramming efficiency using alanine-substitution scanning methods. Identified KLF4 L507A mutant accelerated and stabilized reprogramming to pluripotency in both mouse and human somatic cells. Our study demonstrates how modifications in amino acid residues of DNA-binding domains enable next generation reprogramming technology with engineered reprogramming factors.

Collaboration with
Dr. Hayashi (RIKEN)

References: Borisova et al., *iScience.* 2022; 25: 103525.
Contact: Prof. Prof. K Hisatake , K Nishimura