

**Title: Supplementary Data 1.**

**Description:** Reagents

Part A: Sequences of sgRNA for dCas9.

Part B: Sequences of sgRNA for CasRx.

Part C: Oligonucleotides sequences for cloning of CasRx guides.

Part D: qPCR primers.

Part E: Plasmid overview

**Title: Supplementary Data 2.**

**Description:** Raw counts of Alkaline-Phosphatase stained cells upon Nanog titration.

**Title: Supplementary Data 3.**

**Description:** Strategy for double-sorting by FACS of cell lines with degron-Cas-repressor systems.

**Title: Supplementary Data 4.**

**Description:** Maps of plasmids used in this study.