



**Supplementary Figure 1.** λN/BoxB tethering assay in stably transduced CH12F3 cells. **(a)** The stable cell lines were generated by the sequential transduction of 5× BoxB-reporter and λN-AID or λN alone. The CH12F3 cells were first infected by lentivirus containing the expression unit of 5× BoxB-reporter, after puromycin selection for 2 days, the lentiviral form of λN-AID or λN alone was further applied and selected with hygromycin for another 3 days. The two selected cell lines were further passaged twice and then genomic DNA was collected for PCR amplification and Sanger sequencing. **(b)** The mutation frequency observed in the BoxB region upon transduction with λN alone or λN-AID. The mutation frequency was calculated from 15 sequenced clones. **(c)** Summary of the sequenced clones and mutation spectrum as shown in (b).