

Supplementary Table 1. Summary of targeting using CRISPR-FLIP strategy.

Targeted gene	Total No. of clones	No. of clones with correct insertion of FLIP	Targeting efficiency (%)	FLIP/+ clones	FLIP/- clones (total)	FLIP/- in-frame	FLIP/- out of frame	Misc. (mixed, not sequence confirmed clones and potentially empty wells)
<i>Apc</i>	89	27	30.3%	13	6	0	6	8
<i>Cttnb1</i>	64	14	21.9%	7	6	2	4	1
<i>Esrrb</i>	192	52	27.1%	25	4	1	3	23
<i>Nfx1</i>	96	19	19.8%	4	3	1	2	12
<i>Sox2</i>	192	58	30.2%	37	3	2	1	18
<i>Tcf7l2</i>	96	39	40.6%	17	14	3	11	8
<i>Trim13</i>	96	21	21.9%	4	4	0	4	13
<i>Trim37</i>	96	28	29.2%	4	8	3	5	16
<i>ARID1A</i> (HEK293- aneuloid)	192	18	9.4%	6	3	0	3	9
<i>TP53</i> (HEK293 - aneuploid)	104	42	40.4%	2	8	3	5	32
<i>TP53</i> (hiPSC)	32	24	75.0%	12	4	2	2	8

Supplementary Table 2. Primers used for quantitative RT-PCR

Sample	Forward (5'-3')	Reverse (5'-3')
Ex5	GCTGTTATGGTCCATCAGCTTT	AGACTTAAAGATGGCCAGCAAG
Ex5-IntR	CTAAAGCGCATGCTCCAGACT	AACGAGCTGTCTCTACATCATTTG
Ex7-8	CCCAAGCCTTAGTAAACATAATGA	GGTTTCTGAGAGTCCAAGACAGT
Ex8-IntR	ACATGAGTTATCACTGGCAAGGTA	GGTTTCTGAGAGTCCAAGACAGT