

Supplementary table 1. Histopathological analysis of disease grade in cervical (A) and vaginal (B) tissues from mice treated with estrogen for 6 months.

A.

<i>Genotype</i>	Group size, n	Severity of disease, n (%)				
		Hyperplasia	CIN1	CIN2	CIN3	C.Cancer
<i>NTG/FancD2</i> ^{+/+}	15	14 (93.3)	1 (6.7)	-	-	-
<i>NTG/FancD2</i> ^{-/-}	16	11 (68.8)	5 (31.3)	-	-	-
<i>K14E6/FancD2</i> ^{+/+}	19	5 (26.3)	14 (73.7)	-	-	-
<i>K14E6/FancD2</i> ^{-/-}	22	5 (22.7)	11 (50.0)	4 (18.2)	1 (4.5)	1 (4.5)
<i>K14E7/FancD2</i> ^{+/+}	27	-	1 (3.7)	9 (33.3)	13 (48.1)	4 (14.8)
<i>K14E7/FancD2</i> ^{-/-}	28	-	-	6 (21.4)	13 (46.4)	9 (32.1)
<i>K14E6E7/FancD2</i> ^{+/+}	21	-	-	10 (47.6)	7 (33.3)	4 (19.0)
<i>K14E6E7/FancD2</i> ^{-/-}	21	-	-	3 (14.3)	10 (47.6)	8 (38.1)

Statistical analysis of difference in disease grade of each mice. All statistical analyses were performed by two-sided Wilcoxon rank sum test.

NTG/FancD2^{+/+} vs. *NTG/FancD2*^{-/-}; P=0.044

K14E6/FancD2^{+/+} vs. *K14E6/FancD2*^{-/-}; P=0.068

K14E7/FancD2^{+/+} vs. *K14E7/FancD2*^{-/-}; P=0.043

K14E6E7/FancD2^{+/+} vs. *K14E6E7/FancD2*^{-/-}; P=0.014

B.

<i>Genotype</i>	Group size, n	Severity of disease, n (%)				
		Hyperplasia	VAIN1	VAIN2	VAIN3	V.Cancer
<i>NTG/FancD2</i> ^{+/+}	15	15 (100)	-	-	-	-
<i>NTG/FancD2</i> ^{-/-}	16	12 (75.0)	4 (25.0)	-	-	-
<i>K14E6/FancD2</i> ^{+/+}	19	13 (68.4)	5 (26.3)	-	-	1 (5.3)
<i>K14E6/FancD2</i> ^{-/-}	22	13 (59.1)	7 (31.8)	1 (4.5)	-	1 (4.5)
<i>K14E7/FancD2</i> ^{+/+}	27	1 (3.7)	11 (40.7)	11 (40.7)	2 (7.4)	2 (7.4)
<i>K14E7/FancD2</i> ^{-/-}	28	-	3 (10.7)	11 (39.3)	7 (25.0)	7 (25.0)
<i>K14E6E7/FancD2</i> ^{+/+}	21	-	-	13 (61.9)	5 (23.8)	3 (14.3)
<i>K14E6E7/FancD2</i> ^{-/-}	21	-	-	9 (42.9)	5 (23.8)	7 (33.3)

Statistical analysis of difference in disease grade of each mice. All statistical analyses were performed by two-sided Wilcoxon rank sum test.

NTG/FancD2^{+/+} vs. *NTG/FancD2*^{-/-}; P=0.020

K14E6/FancD2^{+/+} vs. *K14E6/FancD2*^{-/-}; P=0.263

K14E7/FancD2^{+/+} vs. *K14E7/FancD2*^{-/-}; P=0.0005

K14E6E7/FancD2^{+/+} vs. *K14E6E7/FancD2*^{-/-}; P=0.075