

Supplementary Table 1: Pathologies detected in successive generations of telomerase-deficient mice *.

Successive generations (G1-G3) of telomerase-deficient (*Terc*(-/-)) male (M) and female (F) mice, either wild type for p53 (*p53*(+/+)) or carrying an extra copy of p53 (*p53*(+/+; *tg*/)) were sacrificed when they showed signs of poor health, such as reduced activity or dramatic weight loss, and subjected to histopathological analysis. The total number of animals (n) followed up within each mouse cohort is given in the header of the table. * Neoplasias are listed separately in Supplementary Table 2.

organ	pathology	genotype							
		<i>Terc</i> (+/+) <i>p53</i> (+/+) n=32 (18M/14F)	<i>Terc</i> (+/+) <i>p53</i> (+/+; <i>tg</i> /) n=65 (29M/37F)	G1- <i>Terc</i> (-/-) <i>p53</i> (+/+) n=9 (4M/5F)	G1- <i>Terc</i> (-/-) <i>p53</i> (+/+; <i>tg</i> /) n=9 (5M/4F)	G2- <i>Terc</i> (-/-) <i>p53</i> (+/+) n=15 (8M/7F)	G2- <i>Terc</i> (-/-) <i>p53</i> (+/+; <i>tg</i> /) n=15 (11M/4F)	G3- <i>Terc</i> (-/-) <i>p53</i> (+/+) n=12 (6M/6F)	G3- <i>Terc</i> (-/-) <i>p53</i> (+/+; <i>tg</i> /) n=14 (9M/5F)
skin	hyperplasia	0/32 (0%)	2/65 (3%)	1/9 (11%)	1/9 (11%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	chronic dermatitis	3/32 (9%)	6/65 (9%)	0/9 (0%)	1/9 (11%)	1/15 (7%)	1/15 (7%)	0/12 (0%)	1/14 (7%)
	chronic blefaritis	1/32 (3%)	1/65 (2%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	1/14 (7%)
brain	hydrocephalus	0/32 (0%)	0/65 (0%)	1/9 (11%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	calcification in thalamus	3/32 (9%)	0/65 (0%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	1/12 (8%)	0/14 (0%)
lung	thrombosis	0/32 (0%)	0/65 (0%)	0/9 (0%)	1/9 (11%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	lymphoid infiltration	4/32 (13%)	3/65 (5%)	1/9 (11%)	1/9 (11%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
liver	vacuolar degeneration	0/32 (0%)	1/65 (2%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	1/15 (7%)	1/12 (8%)	0/14 (0%)
	microgranuloma	1/32 (3%)	6/65 (9%)	2/9 (22%)	0/9 (0%)	0/15 (0%)	1/15 (7%)	0/12 (0%)	0/14 (0%)
	hepatitis	0/32 (0%)	2/65 (3%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	1/15 (7%)	1/12 (8%)	1/14 (7%)
	cysts	1/32 (3%)	2/65 (3%)	0/9 (0%)	0/9 (0%)	2/15 (13%)	0/15 (0%)	1/12 (8%)	0/14 (0%)
kidney	glomerulonephritis	10/32 (31%)	36/65 (55%)	4/9 (44%)	2/9 (22%)	1/15 (7%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	tubular degeneration	1/32 (3%)	7/65 (11%)	1/9 (11%)	0/9 (0%)	1/15 (7%)	1/15 (7%)	0/12 (0%)	1/14 (7%)
	lymphoid infiltration	10/32 (31%)	18/65 (28%)	3/9 (33%)	4/9 (44%)	1/15 (7%)	1/15 (7%)	1/12 (8%)	0/14 (0%)
	cysts	4/32 (13%)	8/65 (12%)	3/9 (33%)	1/9 (11%)	1/15 (7%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	adrenal hyperplasia	0/32 (0%)	0/65 (0%)	0/9 (0%)	0/9 (0%)	1/15 (7%)	0/15 (0%)	0/12 (0%)	1/14 (7%)

spleen	hemosiderosis	4/32 (13%)	8/65 (12%)	2/9 (22%)	2/9 (22%)	2/15 (13%)	0/15 (0%)	1/12 (8%)	0/14 (0%)
	lymphoid hyperplasia	8/32 (25%)	7/65 (11%)	3/9 (33%)	0/9 (0%)	3/15 (20%)	4/15 (27%)	2/12 (17%)	2/14 (14%)
	atypic lymphoid hyperplasia	0/32 (0%)	3/65 (5%)	1/9 (11%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	1/14 (7%)
	amyloidosis	1/32 (3%)	3/65 (5%)	0/9 (0%)	0/9 (0%)	1/15 (7%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	atrophy	5/32 (16%)	11/65 (17%)	3/9 (33%)	1/9 (11%)	4/15 (27%)	4/15 (27%)	5/12 (42%)	3/14 (21%)
gut	hyperplasia	0/32 (0%)	0/65 (0%)	0/9 (0%)	0/9 (0%)	1/15 (7%)	1/15 (7%)	0/12 (0%)	0/14 (0%)
intestine	atrophy	0/32 (0%)	0/65 (0%)	7/9 (78%)	5/9 (56%)	13/15 (87%)	13/15 (87%)	10/12 (83%)	12/14 (86%)
	hemorrhagia	0/32 (0%)	2/65 (3%)	1/9 (11%)	0/9 (0%)	1/15 (7%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	peritonitis	1/32 (3%)	0/65 (0%)	1/9 (11%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	0/14 (0%)
	enteritis	1/32 (3%)	2/65 (3%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	0/12 (0%)	1/14 (7%)
bladder	cystitis	0/32 (0%)	0/65 (0%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	0/15 (0%)	1/12 (8%)	0/14 (0%)
lymph nodes	hyperplasia	0/32 (0%)	1/65 (2%)	0/9 (0%)	0/9 (0%)	0/15 (0%)	1/15 (7%)	0/12 (0%)	0/14 (0%)
testis	hyperplasia of Leydig cells	0/18 (0%)	0/29 (0%)	0/4 (0%)	1/5 (20%)	0/8 (0%)	0/11 (0%)	2/6 (33%)	0/9 (0%)
	atrophy	0/18 (0%)	5/29 (17%)	2/4 (50%)	4/5 (80%)	6/8 (75%)	8/11 (73%)	5/6 (83%)	6/9 (67%)
seminal vesicles	dilatation	10/18 (56%)	11/29 (38%)	0/4 (0%)	2/5 (40%)	0/8 (0%)	0/11 (0%)	0/6 (0%)	0/9 (0%)
uterus	endometrial hyperplasia	5/14 (36%)	13/37 (35%)	0/5 (0%)	0/4 (0%)	1/7 (14%)	1/4 (25%)	0/6 (0%)	0/5 (0%)
	urethritis	0/14 (0%)	0/37 (0%)	0/5 (0%)	0/4 (0%)	0/7 (0%)	0/4 (0%)	1/6 (17%)	0/5 (0%)
ovary	atrophy	0/14 (0%)	7/37 (19%)	1/5 (20%)	0/4 (0%)	1/7 (14%)	0/4 (0%)	1/6 (17%)	2/5 (40%)
	cyst	2/14 (14%)	1/37 (3%)	0/5 (0%)	0/4 (0%)	1/7 (14%)	0/4 (0%)	0/6 (0%)	0/5 (0%)

Supplementary Table 2: Tumor spectrum of wild-type and super-p53 mice proficient or null for telomerase.

Wild-type (Terc(+/+)) and successive generations (G1, G2 and G3) of telomerase-deficient (Terc(-/-) male (M) and female (F) mice, either wild type for p53 (p53(+/+)) or carrying an extra copy of p53 (p53(+/+; tg/)) were sacrificed when they showed signs of poor health, such as reduced activity or dramatic weight loss, and analyzed for neoplastic lesions. The total number of animals (n) followed up within each mouse cohort is given in the header of the table.

	genotype			
	Terc(+/+)		G1,G2 and G3 Terc(-/-)	
	p53(+/+) n=32 (18M/14F)	p53(+/+; tg/) n=65 (29M/37F)	p53(+/+) n=36 (18M/18F)	p53(+/+; tg/) n=38 (25M/13F)
malignant tumors:				
lymphomas	13/32 (41%)	14/65 (22%) *	2/36 (6%)	3/38 (8%)
histiocytic sarcomas	4/32 (13%)	8/65 (12%)	0/36 (0%)	1/38 (3%)
hemangiosarcomas	2/32 (6%)	1/65 (2%)	0/36 (0%)	0/38 (0%)
carcinomas	0/32 (0%)	2/65 (3%)	0/36 (0%)	0/38 (0%)
<i>total :</i>	19/32 (59%)	25/65 (38%) *	2/36 (6%)	4/38 (11%)
non-malignant tumors:				
adenomas	5/32 (16%)	18/65 (28%)	2/36 (6%)	2/38 (5%)
hemangiomas	1/32 (3%)	1/65 (2%)	0/36 (0%)	1/38 (3%)
others	2/32 (6%)	2/65 (3%)	0/36 (0%)	0/38 (0%)

* p < 0.05 *versus* wild type controls (Fisher's Exact test)