Supplementary information S1 (table) | **Genetic interactions with Mre11 complex alleles in the mouse.**
The Mre11 complex mutation and second mutated locus are listed in the first and second columns. A brief phenotypic summary is provided in the third followed by the corresponding reference(s).

Locus 1	Locus 2	Phenotypes	Refs
Nbs1$^{\Delta B/\Delta B}$ *Nbn*^{tm1Ipt}	*p53*$^{-/-}$	Reduced latency of lymphoma onset and reduced survival.	1
Nbs1$^{\Delta B/\Delta B}$	*p53*$^{+/-}$	Reduced latency of tumor onset and reduced survival.	1
Nbs1$^{\Delta B/\Delta B}$	*Atm*$^{-/-}$	Synthetic lethality.	1
Nbs1$^{\Delta B/\Delta B}$	*Mre11*$^{ATLD1/ATLD1}$	Synthetic lethality.	2
Nbs1$^{\Delta B/\Delta B}$	*Chk2*$^{-/-}$	Broad spectrum late onset tumorigenesis. Enhanced intra-S phase checkpoint defect.	3
Nbs1$^{\Delta B/\Delta B}$	*Prkdc*$^{scid/scid}$	Synthetic lethality (incomplete penetrence). Severe runting and shortened lifespan. Chromosomal instability and increased radiation sensitivity.	4
Nbs1$^{\Delta B/\Delta B}$	*Rad54*$^{-/-}$	Synthetic lethality (incomplete penetrence). Severe runting and shortened lifespan. Chromosomal instability and increased radiation sensitivity.	5
Nbs1$^{\Delta B/\Delta B}$	*Art*$^{-/-}$	No overt synthetic phenotypes.	4
Nbs1$^{\Delta B/\Delta B}$	*Smc1*$^{2SA/2SA}$	No overt synthetic phenotypes.	4
Nbs1$^{m/m}$ *Nbn*^{tm1Xu}	*H2AX*$^{-/-}$	Synthetic lethality.	6
Nbs1$^{m/m}$	*p53*$^{-/-}$	Reduced latency of lymphoma onset.	6
hNbs1$^{tr735/tr735}$	*53BP1*$^{-/-}$	Enhanced TCR and IgH associated metaphase abnormalities.	7
Mre11$^{ATLD1/ATLD1}$ *Mre11*^{tm1Ipt}	*p53*$^{-/-}$	Reduced latency of lymphoma onset and reduced survival.	2
Mre11$^{ATLD1/ATLD1}$	*p53*$^{+/-}$	Reduced latency of tumor onset and reduced survival.	2
Mre11$^{ATLD1/ATLD1}$	*Chk2*$^{-/-}$	Heterogenous late onset tumorigenesis. Enhanced apoptotic defect.	3
Mre11$^{ATLD1/ATLD1}$	*Nbs1*$^{\Delta B/\Delta B}$	Synthetic lethality.	2
Mre11$^{ATLD1/ATLD1}$	*Atm*$^{-/-}$	Synthetic lethality.	2
Mre11$^{ATLD1/ATLD1}$	*Prkdc*$^{scid/scid}$	Synthetic lethality.	4
Mre11$^{ATLD1/ATLD1}$	*Lig4*$^{-/-}$	Reduced neuronal apoptosis (with conditional nestin-Lig4 allele). Embryonic lethality.	8
Rad50$^{S/S}$ *Rad50*^{tm2Ipt}	*p53*$^{-/-}$	Decreased haematopoietic stem cell (HSC) attrition, abrogation of anemia. Reduced tumor latency.	9
Rad50$^{S/S}$	*p53*$^{+/-}$	Decreased HSC attrition, abrogation of anemia. Reduced tumor latency.	9
Rad50$^{S/S}$	*Atm*$^{-/-}$	Decreased HSC attrition, enhanced survival. Increased latency of lymphoma. Improved cell growth.	10
Rad50$^{S/S}$	*Chk2*$^{-/-}$	Decreased HSC attrition, enhanced survival. Late onset lymphoma.	10
Rad50$^{S/S}$	*Mre11*$^{+/ATLD1}$	Decreased HSC attrition, enhanced survival. Increased tumorigenesis and reduced anemia.	10
Rad50$^{S/S}$	*Mre11*$^{ATLD1/ATLD1}$	Decreased HSC attrition, enhanced survival. Increased latency of lymphoma.	10
Rad50$^{S/S}$	*Nbs1*$^{+/\Delta B}$	Decreased HSC attrition, enhanced survival.	10
Rad50$^{S/S}$	*Nbs1*$^{\Delta B/\Delta B}$	Decreased HSC attrition, enhanced survival.	10
Rad50$^{S/S}$	*Smc1*$^{2SA/2SA}$	No overt synthetic phenotypes.	10
Rad50$^{S/S}$	*Eμ-Bcl2 transgene*	Decreased HSC attrition, enhanced survival.	10
Rad50$^{S/S}$	*Nbs1*$^{\Delta C/\Delta C}$	Decreased HSC attrition, enhanced survival. Abrogation of anemia and tumorigenesis.	11
Rad50$^{S/S}$	*p21*$^{-/-}$	Enhanced survival.	12
Rad50$^{S/S}$	*p27*$^{-/-}$	Enhanced survival. Increased bone marrow CFCs.	12
Rad50$^{S/S}$	*MEF*$^{-/-}$	Enhanced survival. Increased G0 LSK cells in bone marrow and reduced apoptosis.	12

SUPPLEMENTARY INFORMATION

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