

Table S1. Homozygous *rad21*^{nz171} embryos are rescued by microinjection of mRNA from zebrafish *rad21* and human *RAD21*, but are not rescued by the zebrafish *rad21*^{G277X} mutant mRNA

mRNA injected, amount	Rescue read-out	Number of experiments	Number of embryos injected	Number of <i>rad21</i> ^{nz171} mutants	Number of mutants rescued
Zebrafish <i>rad21</i> , 100 pg	Rescue of hematopoietic <i>runx1</i> expression	3	156	34	33
	Decrease in phosphohistone H3 labeling	3	90	18	15
	Morphology	1	49	12	11
Human <i>RAD21</i> , 100 pg	Rescue of hematopoietic <i>runx1</i> expression	5	254	48	40
	Morphology	1	57	17	9
Zebrafish <i>rad21</i> ^{G277X} mutant mRNA, 100 pg	Morphology	1	87	19	0

Embryos were injected at the 1-cell stage with capped mRNA, and rescue of mutants was scored at 14 somites for *runx1* rescue, 24 h.p.f. for phosphohistone H3 labeling and at 48 h.p.f. for morphology. Partial rescue alone was scored because completely rescued embryos would be indistinguishable from wild-type siblings.