

**Table S4 A survey of *rad8* genetic interaction with helicase mutants on different drugs**

	genotype	growth	HU	MMS	UV	CPT
no synthetic defects	<i>Δhrp3 Δrad8</i>	-	-	-	-	-
	<i>Δtlh2 Δrad8</i>	-	-	-	-	-
	<i>Δhrp1 Δrad8</i>	-	-	-	-	-
	<i>Δswr1 Δrad8</i>	-	-	-	-	-
	<i>Δrdh54 Δrad8</i>	-	-	-	-	-
	<i>Δrrp1 Δrad8</i>	-	-	-	-	-
	<i>Δrrp2 Δrad8</i>	-	-	-	-	-
	<i>ΔSPBC3B8.12 Δrad8</i>	-	-	-	-	-
	<i>ΔSPBC15C4.05 Δrad8</i>	-	-	-	-	-
	<i>ΔSPBC582.10C Δrad8</i>	-	-	-	-	-
	<i>ΔSPAC694.02 Δrad8</i>	-	-	↑ <sup>§</sup>	-	-
	<i>Δ SPCC737.07c Δrad8</i>	-	-	-	-	-
	<i>ΔSPAC144.05 Δrad8</i>	-	-	-	-	-
	<i>cdc21-M68 Δrad8</i>	-	-	-	-	-
<i>cdc21-C84 Δrad8</i>	-	-	-	-	-	
Increased drug sensitivity	<i>Δrhp26 Δrad8</i>	-	-	↓↓	-	-
	<i>Δfbh1 Δrad8</i>	-	-	↓	↓	-
	<i>Δrqh1 Δrad8</i>	-	↓	↓↓	↓	ND
	<i>Δrad54 Δrad8</i>	↓	↓↓↓	↓↓	↓	↓
	<i>Δrad55 Δrad8</i>	↓	↓	↓↓	↓↓	↓↓
	<i>Δrad57 Δrad8</i>	-	↓	↓↓	↓	↓
	<i>pfh1-R20 Δrad8</i>	-	↑	↓	-	-
	<i>dna2-K961T Δrad8</i>	-	↓	↓↓	↓	ND
	<i>dna2<sup>ts</sup> Δrad8</i>	-	-	↓	↓	-
	<i>Δfml1 Δrad8</i>	-	↓↓	↓↓	↓↓	↓↓
<i>Δfml2 Δrad8</i>	-	-	↓	-	-	
mixed drug sensitivity	<i>Δfml1 Δfml2 Δrad8</i>	- elongated	↓↓	↓↓↓	↓↓	↑
	<i>Δchl1 Δrad8</i>	-	-	↓↓	-	↑
	<i>Δsrs2 Δrad8</i>	-	↑	↓	-	↓↓
	<i>Δsnf22 Δrad8</i>	-	↑	-	-	↓

The level of sensitivity is scored by the fitness on the drug plates. No difference from the either of the single mutants is labeled as “-”. The level of increased drug sensitivity is scored by number of “↓”. The level of reduced drug sensitivity is scored by number of “↑”. ND = not determined. <sup>§</sup> one RNA helicase partially decreased the MMS sensitivity of *rad8*. SPBC3B8.12 = SPBC11C11.11c.