

**Supplemental Figure 4 -Rescue of viability by *Mcm3* hemizyosity**

**Cross: *Mcm4*<sup>C3/C3</sup> X *Mcm4*<sup>C3/C3</sup> *Mcm2*<sup>Gt/+</sup> *Mcm3*<sup>Gt/+</sup>**

Genotype:	<i>M4</i> <sup>C3/C3</sup>	<i>M4</i> <sup>C3/C3</sup> <i>M3</i> <sup>Gt/+</sup>	<i>M4</i> <sup>C3/C3</sup> <i>M2</i> <sup>Gt/+</sup>	<i>M4</i> <sup>C3/C3</sup> <i>M3</i> <sup>Gt/+</sup>	
Expected Ratio	1/4	1/4	1/4	1/4	
Expected #	52.3	52.3	52.3	52.3	
Observed	66	69	24	50	FET P=7.12E-05
<b>Total</b>	<b>209</b>	$\chi^2$ P= 2.12558E-05			

**Cross: *Mcm4*<sup>Gt/+</sup> X *Mcm4*<sup>C3/C3</sup> *Mcm3*<sup>Gt/+</sup>**

Genotypes:	<i>Mcm4</i> <sup>C3/+</sup>	<i>Mcm4</i> <sup>C3/+</sup> <i>Mcm3</i> <sup>Gt/+</sup>	<i>Mcm4</i> <sup>C3/Gt</sup>	<i>Mcm4</i> <sup>C3/Gt</sup> <i>Mcm3</i> <sup>Gt/+</sup>	
Expected Ratio	1/4	1/4	1/4	1/4	
Expected #	61.75	61.75	61.75	61.75	
Observed	99	101	7	40	FET P=7.14E-05
<b>Total</b>	<b>247</b>	$\chi^2$ P= 2.58374E-22			

**Cross: *Mcm4*<sup>C3/C3</sup> X *Mcm4*<sup>C3/C3</sup> *Mcm3*<sup>Gt/+</sup> *Mcm6*<sup>Gt/+</sup>**

Genotypes:	<i>Mcm4</i> <sup>C3/C3</sup>	<i>Mcm4</i> <sup>C3/C3</sup> <i>Mcm3</i> <sup>Gt/+</sup>	<i>Mcm4</i> <sup>C3/C3</sup> <i>Mcm6</i> <sup>Gt/+</sup>	<i>Mcm4</i> <sup>C3/C3</sup> <i>Mcm3</i> <sup>Gt/+</sup> <i>Mcm6</i> <sup>Gt/+</sup>	
Expected Ratio	1/4	1/4	1/4	1/4	
Expected #	27.0	27.0	27.0	27.0	
Observed	35	47	9	17	FET P= 0.15
<b>Total</b>	<b>108</b>	$\chi^2$ P= 3.39925E-07			