

Table S1. The genotypes of fly lines used in this study (Related to the STAR Methods)

No. figure	Symbol	Genotype
Figure 1		
A	Control	<i>elav-Gal4, Tub-Gal80^{ts}/+; UAS-Control-(GR)₈₀/+</i>
	Poly(GR)	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
F	<i>Cont-(GR)₈₀</i>	<i>elav-Gal4, Tub-Gal80^{ts}/+; UAS-Control-(GR)₈₀/+</i>
	<i>(GR)₈₀</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
G and I	+/+	<i>GMR-Gal4, Tub-Gal80^{ts}/+</i>
	<i>UAS-(GR)₈₀/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
	<i>Mtk^{R1}/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/Mtk^{R1}</i>
	<i>Dpt^{SK1}/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/Dpt^{SK1}</i>
H and I	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-Mtk RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Mtk RNAi-1/+</i>
J	<i>elav-Gal4, Gal80^{ts}/+; Cont-(GR)₈₀/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}/+; UAS-Control-(GR)₈₀/+</i>
	<i>UAS-mCherry RNAi/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Mtk RNAi-1/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Mtk RNAi-1/+</i>
	<i>UAS-Mtk RNAi-2/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-Mtk RNAi-2</i>
	<i>UAS-Mtk RNAi-3/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Mtk RNAi-3/+</i>
	<i>UAS-Mtk/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-Mtk</i>
Figure 2		
B and D	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-Hsp90 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp90 RNAi/+</i>
C and D	<i>GMR-Gal4, Gal80^{ts}/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+</i>
	+/+	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
	<i>Hsp90^{e6A}/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; Hsp90^{e6A}/+</i>
	<i>Hsp90^{e6D}/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; Hsp90^{e6D}/+</i>
	<i>Hsf¹/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; Hsf¹/+</i>
	<i>UAS-Hsp90/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-Hsp90</i>
E	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>GMR-Gal4, Gal80^{ts}/+; UAS-Hsp90 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp90 RNAi/+</i>
	<i>GMR-Gal4, Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>GMR-Gal4, Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp90 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp90 RNAi/+</i>
F	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-Hsp90 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp90 RNAi/+</i>
Figure 3		
A and B	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-TopoII RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-1/+</i>
	<i>UAS-TopoII RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-2/+</i>
C and D	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>GMR-Gal4, Gal80^{ts}, UAS-(GR)₈₀/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
E	<i>elav-Gal4, Gal80^{ts}/+; Cont-(GR)₈₀/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}/+; UAS-Control-(GR)₈₀/+</i>
	<i>UAS-mCherry RNAi/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-mCherry RNAi/+</i>
	<i>UAS-TopoII RNAi/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-2/+</i>
	<i>UAS-Hsp90 RNAi/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp90 RNAi/+</i>
Figure 4		
A-C	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>GMR-Gal4, Gal80^{ts}, UAS-(GR)₈₀/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
F-L	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-TopoII RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-1/+</i>
	<i>UAS-TopoII RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-2/+</i>
Figure S2		
A	+/+	+/+
	<i>Mtk^{R1}/Mtk^{R1}</i>	<i>Mtk^{R1}/Mtk^{R1}</i>
B	+/+	+/+
	<i>Dpt^{SK1}/Dpt^{SK1}</i>	<i>Dpt^{SK1}/Dpt^{SK1}</i>
C	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Mtk RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Mtk RNAi-1/+</i>

	<i>UAS-Mtk RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Mtk RNAi-2</i>
	<i>UAS-Mtk RNAi-3/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Mtk RNAi-3/+</i>
D and E	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp23 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-Hsp23 RNAi-1</i>
	<i>UAS-Hsp23 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-Hsp23 RNAi-2</i>
	<i>UAS-Hsp26 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-Hsp26 RNAi-1</i>
	<i>UAS-Hsp26 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp26 RNAi-2/+</i>
	<i>UAS-Hsp27 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp27 RNAi-1/+</i>
	<i>UAS-Hsp27 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp27 RNAi-2/+</i>
	<i>UAS-Hsp70 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-Hsp70 RNAi/+</i>
	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp23 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp23 RNAi-1</i>
	<i>UAS-Hsp23 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp23 RNAi-2</i>
	<i>UAS-Hsp26 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp26 RNAi-1</i>
	<i>UAS-Hsp26 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp26 RNAi-2/+</i>
	<i>UAS-Hsp27 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp27 RNAi-1/+</i>
	<i>UAS-Hsp27 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp27 RNAi-2/+</i>
	<i>UAS-Hsp70 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp70 RNAi/+</i>
F	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp23 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp23 RNAi-1</i>
	<i>UAS-Hsp23 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp23 RNAi-2</i>
G	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp26 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp26 RNAi-1</i>
	<i>UAS-Hsp26 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp26 RNAi-2/+</i>
H	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp27 RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp27 RNAi-1/+</i>
	<i>UAS-Hsp27 RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp27 RNAi-2/+</i>
I	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp70 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp70 RNAi/+</i>
J	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-Hsp90 RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-Hsp90 RNAi/+</i>
K	<i>+/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+</i>
	<i>UAS-Hsp90/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-Hsp90</i>
L	<i>UAS-mCherry RNAi/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-mCherry RNAi/+</i>
	<i>UAS-TopoII RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-TopoII RNAi-1/+</i>
	<i>UAS-TopoII RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/+; UAS-TopoII RNAi-2/+</i>
Figure S3		
A-D	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-TopoII RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-1/+</i>
	<i>UAS-TopoII RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-2/+</i>
Figure S4		
A	<i>elav, Gal80^{ts}/+; UAS-Cont-(GR)₈₀/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}/+; UAS-Control-(GR)₈₀/+</i>
	<i>elav, Gal80^{ts}, UAS-(GR)₈₀/+</i>	<i>elav-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+</i>
B-D	<i>GMR-Gal4, Gal80^{ts}/UAS-GFP</i>	<i>GMR-Gal4, Tub-Gal80^{ts}/UAS-GFP</i>
	<i>UAS-GFP/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/UAS-GFP</i>
	<i>UAS-TopoII RNAi-1/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-1/+</i>
	<i>UAS-TopoII RNAi-2/+</i>	<i>GMR-Gal4, Tub-Gal80^{ts}, UAS-(GR)₈₀/+; UAS-TopoII RNAi-2/+</i>