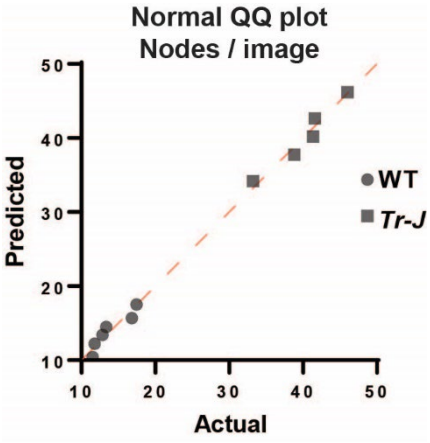
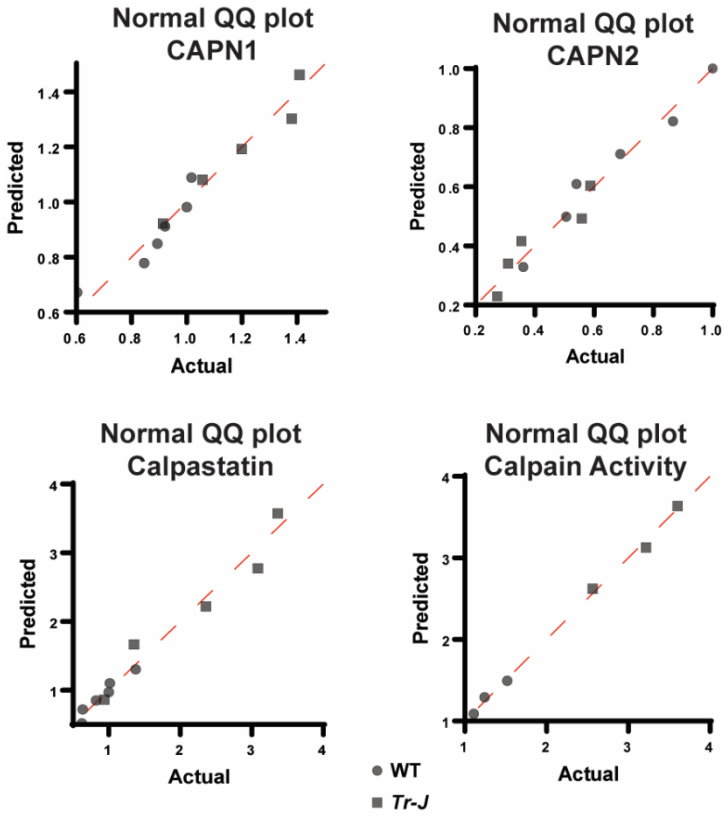
	Shapiro-Wilk Test			Student's t-test	
Average Number of Nodes	**W**	***P*-value**	**F test *P*-value**	**t, df**	***P*-value**
Wild-type	0.8521	0.1635	0.2183	t = 11.83 df = 9	<0.0001
Trembler-J	0.9583	0.7963	-	-	-



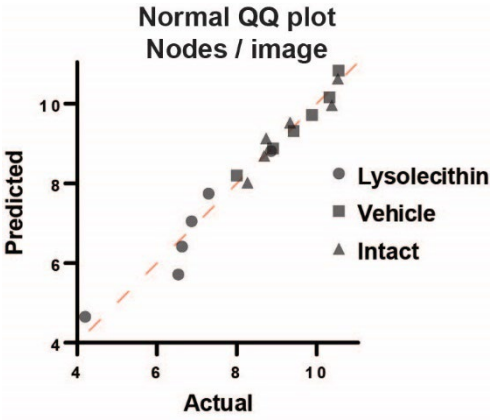
Supplementary S1. Statistical information for Figure 2.

	Shapiro-Wilk Test			Student's t-test	
CAPN1	**W**	***P*-value**	**F test *P*-value**	**t, df**	***P*-value**
Wild-type	0.8623	0.1972	0.4774	t = 2.863 df = 9	0.0187
Trembler-J	0.9301	0.5974	-	-	-
CAPN2					
Wild-type	0.9627	0.84	0.3585	t = 1.981 df = 9	0.0789
Trembler-J	0.8488	0.1908	-	-	-
Calpastatin				**Welch's t-test**	**Welch's t-test *P*-value**
Wild-type	0.9134	0.459	0.0129	t = 2.685 df = 4.482	0.0487
Trembler-J	0.9218	0.5416	-	-	-
Calpain Activity Assay				**Student's t-test**	**Student's t-test *P*-value**
Wild-type	0.9605	0.6179	0.2739	t = 5.629 df = 4	0.0049
Trembler-J	0.979	0.7234	-	-	-



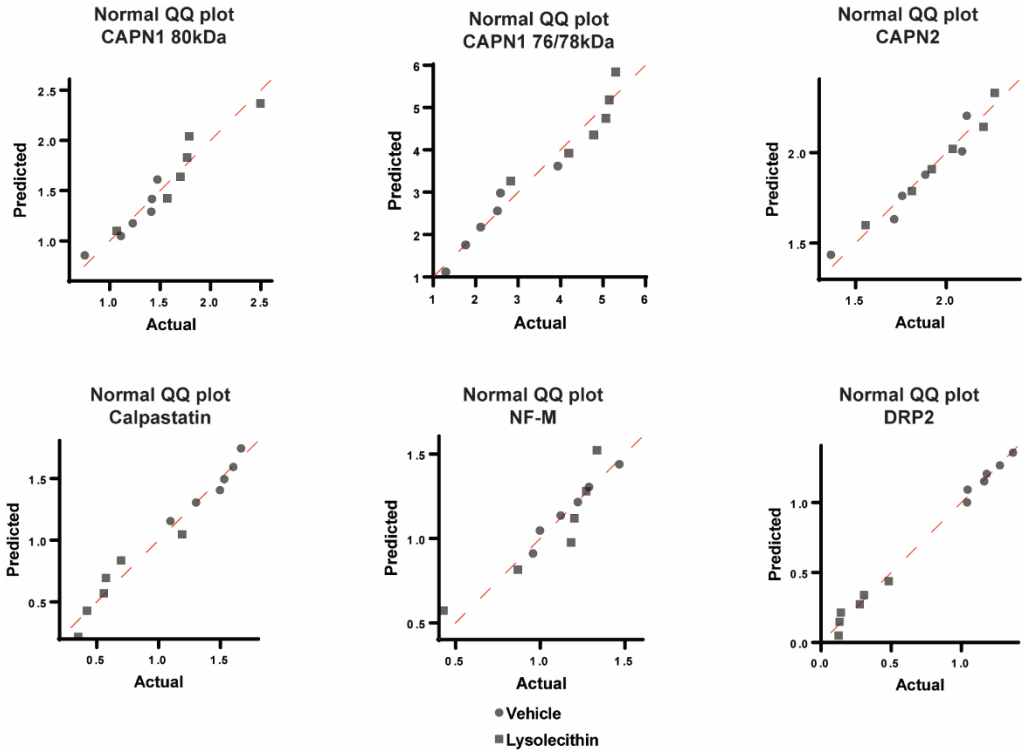
Supplementary S2. Statistical information for Figure 3.

	Shapiro-Wilk Test				
	W	***P*–value**	**One Way ANOVA with Tukey Multiple Comparisons**	**Mean Diff.**	**Adjusted *P*-value**
Lysolecithin	0.9219	0.5192	Lysolecithin vs. Vehicle	−2.784	0.0023
Vehicle	0.9527	0.7621	Lysolecithin vs. Intact	−2.593	0.0041
Intact	0.8855	0.2952	Vehicle vs. Intact	0.1918	0.9561



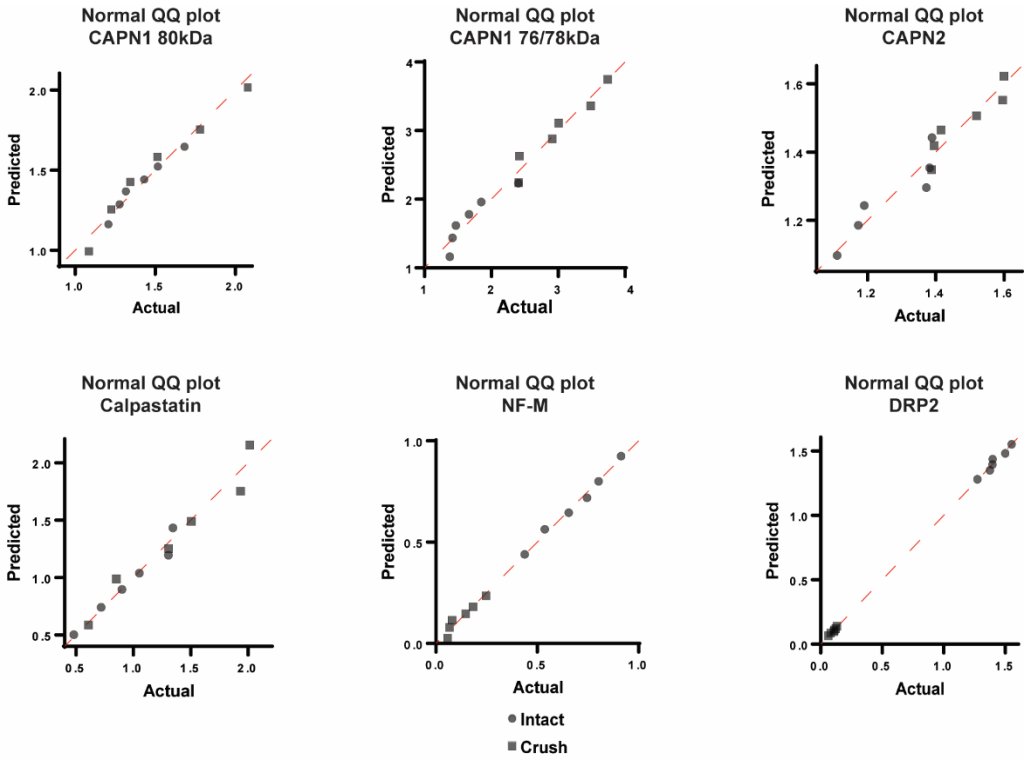
Supplementary S3. Statistical information for Figure 4.

	Shapiro-Wilk Test			Student's t-test	
CAPN1 80kDa	**W**	***P*-value**	**F test *P*-value**	**t, df**	***P*-value**
Vehicle	0.8664	0.2123	0.277	t = 2.295 df=10	0.0446
Lysolecithin	0.919	0.4982	-	-	-
CAPN1 76/78 kDa					
Vehicle	0.9392	0.6531	0.9504	t = 4.117 df = 10	0.0021
Lysolecithin	0.8175	0.084	-	-	-
CAPN2					
Vehicle	0.9289	0.5714	0.9139	t = 0.9294 df = 10	0.3745
Lysolecithin	0.9631	0.843	-	-	-
Calpastatin					
Vehicle	0.9133	0.4588	0.4704	t = 5.445 df = 10	0.0003
Lysolecithin	0.8547	0.1716	-	-	-
NF-M					
Vehicle	0.9613	0.8297	0.224	t = 0.7975 df = 10	0.4437
Lysolecithin	0.8255	0.0985	-	-	-
DRP2					
Vehicle	0.9293	0.5751	0.8455	t = 12.03 df = 10	<0.0001
Lysolecithin	0.8517	0.1625	-	-	-



Supplementary S4. Statistical information for Figure 5.

	Shapiro-Wilk Test			Student's t-test	
CAPN1 80kDa	**W**	***P*-value**	**F test *P*-value**	**t, df**	***P*-value**
Intact	0.9554	0.7839	0.1267	t = 0.5972 df = 10	0.5637
Crush	0.9562	0.7902	-	-	-
CAPN1 76/78 kDa					
Intact	0.8424	0.1366	0.4762	t = 4.753 df = 10	0.0008
Crush	0.9163	0.479	-	-	-
CAPN2					
Intact	0.8214	0.0907	0.622	t = 3.316 df = 10	0.0078
Crush	0.8307	0.1091	-	-	-
Calpastatin					
Intact	0.9491	0.7331	0.2778	t = 1.497 df = 10	0.1654
Crush	0.9361	0.6282	-	-	-
NF-M					
Intact	0.9828	0.9645	0.0898	t = 7.082 df = 10	<0.0001
Crush	0.9015	0.3829	-	-	-
DRP2				**Welch's t-test**	**Welch's t-test *P*-value**
Intact	0.9507	0.7461	0.0119	t = 31.57 df = 5.719	<0.0001
Crush	0.9375	0.6392	-	-	-



Supplementary S5. Statistical information for Figure 6.