

Table. 1 Results of normality test and variance homogeneity test of each data set. $p < 0.05$ indicates that data do not meet normality or homogeneity of variance. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figures.	Shapiro-Wilk normality test				Results of variance homogeneity test		
	Group name and p -value				F and p values		Test name
Fig 1b	T7 ^{flox/flox}	CaMKII-T7 ^{-/-}	/	/	$F_{(5,5)} = 1.017$	$p = 0.986$	F test
	$p = 0.740$	$p = 0.454$	/	/			
Fig 1c	T7 ^{flox/flox}	CaMKII-T7 ^{-/-}	/	/	$F_{(5,5)} = 47.41$	*** $p < 0.001$	F test
	$p = 0.096$	$p = 0.859$	/	/			
Fig 1d	T7 ^{flox/flox}	CaMKII-T7 ^{-/-}	/	/	$F_{(5,5)} = 224.5$	*** $p < 0.001$	F test
	$p = 0.405$	$p = 0.943$	/	/			
Fig 1e	T7 ^{flox/flox}	CaMKII-T7 ^{-/-}	/	/	$F_{(5,5)} = 27.82$	** $p = 0.002$	F test
	$p = 0.113$	$p = 0.193$	/	/			
Fig 2b	M7CK	M7CK/SSH2	M7CK/cofilin	M7CK/MBP	$F_{(3,20)} = 5.624$	** $p = 0.006$	Brown-For sythe test
	$p = 0.410$	$p = 0.774$	$p = 0.354$	$p = 0.996$			
Fig 2d	RAC1	M7CK/SSH2	RAC1/M7CK	RAC1/M7C K/Rac1 neutralizing antibody	$F_{(3,20)} = 1.555$	$p = 0.231$	Brown-For sythe test
	$p = 0.597$	$p = 0.456$	$p = 0.301$	$p = 0.731$			
Fig 2e	Control _{SCR}	TRPM7 ^{shRNA}	/	/	$F_{(5,5)} = 1.633$	$p = 0.604$	F test
	$p = 0.076$	$p = 0.699$	/	/			
Fig 2f	T7 ^{flox/flox}	CaMKII-T7 ^{-/-}	/	/	$F_{(6,6)} = 2.067$	$p = 0.398$	F test
	* $p = 0.011$	$p = 0.263$	/	/			
Fig 2g	Control _{SCR}	TRPM7 ^{shRNA} + control-EG FP	TRPM7 ^{shRNA} + M7CK-EGFP	TRPM7 ^{shRNA} + TRPM7 Δ K-EGFP	$F_{(3,20)} = 17.8$	*** $p < 0.001$	Brown-For sythe test
	$p = 0.076$	$p = 0.887$	$p = 0.872$	$p = 0.6205$			