

Supplementary Table 1

Plasmid name	Plasmid sequence	nucleotide sequence of ORF
Lyn-ECFP-FRB	TAGTTATTAATAGTAATCAATTACGGGC	ATGGGATGTATAAAATCAAAAGGGAAAGACAGC
FRB-ECFP-KRas4BCAAX	TAGTTATTAATAGTAATCAATTACGGGC	ATGGCTTCTAGAATCCTCTGGCATGAGATGTGGC
EYFP-FKBP	TAGTTATTAATAGTAATCAATTACGGGC	ATGGTGAGCAAGGGCGAGGAGCTGTTACACGGC
EYFP-FKBP-iSH2(mouse, beta)	TAGTTATTAATAGTAATCAATTACGGGC	ATGGTGAGCAAGGGCGAGGAGCTGTTACACGGC
mCherry-PH(Akt)	TAGTTATTAATAGTAATCAATTACGGGC	ATGGTAAGCAAGGGCGAGGAGGATAACATGGC

amino acid sequence of ORF

MGCIKSKGKDSADPPVATMVSKGEELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTCLKFICTTGKLPVPWPTLVTTLTWGVQCFSRYPDHMKQ
MASRILWHEMWHEGLEEASRLYFGERNVKGMFEVLEPLHAMMERGPQTLKETSFNQAYGRDLMEAQEWCRKYMKSGNVKDLLQAWDLYYHVFRF
MVSKGEELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTCLKFICTTGKLPVPWPTLVTTFGYGLQCFARYPDHMKQHDFFKSAMPEGYVQERTII
MVSKGEELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTCLKFICTTGKLPVPWPTLVTTFGYGLQCFARYPDHMKQHDFFKSAMPEGYVQERTII
MVSKGEEDNMAIIKEFMRFKVHMEGSVNGHEFEIEGEGEGRPYEGTQTAKLKVTGGPLPFAWDILSPQFMYGSKAYVKHPADIPDYLKLSFPEGFKWI

!HDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNVISHNVYITADKQKNGIKANFKIRHNIEDGSVQLADHYQQNT
RISKTSYPYDVPDYARSRAQASNSMVSKGEELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTCLKFICTTGKLPVPWPTLVTTLTWGVQCFSRYPDHMKQF
FFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNVNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQQNTPIGDGPVLLPDNHYSY
FFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNVNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQQNTPIGDGPVLLPDNHYSY
ERV MNFEDGGVVTVTQDSSLQDGEFIYKVKLRGTNFPDGPVMQKKTMGWEASSERMYPEDGALKGEIKQRLKLDGGHYDAEVKTTYKAKKPVQLPGAYN'

PIGDGPVLLPDNHYLSTQSALSKDPNEKRDHMLLEFVTAAGITLGMDELYKGASGILWHEMWHEGLEEASRLYFGERNVKGMFEVLEPLHAMMERGPQTLK
HDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNYISHNVYITADKQKNGIKANFKIRHNIEDGSVQLADHYQQNTI
'QSALSKDPNEKRDHMLLEFVTAAGITLGMDELYKSAGGGVQVETISPGDGRTFPKRGQTCVVHYTGMLEDGKKFDSSRDRNKPFFKMLGKQEVIRGWEEGV
'QSALSKDPNEKRDHMLLEFVTAAGITLGMDELYKSAGGGVQVETISPGDGRTFPKRGQTCVVHYTGMLEDGKKFDSSRDRNKPFFKMLGKQEVIRGWEEGV
VNIKLDITSHNEDYTIVEQYERAEGRHSTGGMDELYKSGLRSAQNDAIVKEGWLHKGGEYIKTWRPRYFLLKNDGTFIGYKERPQDVDQRESPLNNFSVAQCC

ETSFNQAYGRDLMEAEWCRKYMKSGNVKDLLQAWDLYYHVFRISKSAGGSAGGSAGGTGGPRAQASNSAVDRSTGSR

PIGDGPVLLPDNHYLSTQSALSKDPNEKRDHMLLEFVTAAGITLGMDELYKSGLRKMSKDGGKKKKKKSKTKCVIM

AQMSVGQRAKLTISPDYAYGATGHPGIIPPHATLVFDVELLKLESAGGSAGGSAGGSAGGSAGGPRAQASNSAVDGTAGPGSTGSR

AQMSVGQRAKLTISPDYAYGATGHPGIIPPHATLVFDVELLKLESAGGSAGGSAGGSAGGSAGGPRAKYQQDQVVKEDSVEAVGAQLKVYHQQYQDKSREYD

QLMKTERPRPNTFIIRCLQWTTVIERTFHVETPEEREWATAIQTVADGLKRQEETMDFRSGSPSDNSGAEEMEVS LAKPKHRVTMNSAVDGTAGPGSTGSR

YQLYEEYTRTSQELQMKRTAIEAFNETIKIFEEQGGTQEKCSKEYLERFRREGNEKEMQRILLNSERLKSRIAEIHESRTKLEQDLRAQASDNREIDKRMNSLKPDLN

1QLRKIRDQYLVWLTQKGARQRKINEWLGIKNETEDQYSLMEDEDALPHHEERT

Supplementary Table 2

name	Myr	Pal	Far	Ger	PBC	TM
Lyn-ECFP-FRB	+	+				
Fyn-ECFP-FRB	+	++				
Gap43-ECFP-FRB		++				
FRB-ECFP-HRasCAAX		++	+			
FRB-ECFP-KRas4BCAAX			+		+	
FRB-ECFP-KRas4BCAAX-GG				+	+	
LAT-ECFP-FRB-Kir-ER		++				+

Myr: Myristoylation, Pal: palmitoylation, Far: farnesylation, Ger: geranylgeranylation

iSH2-mediated endocytosis	targeting sequence
+	MGCIKSKGKDSA
+	MGCVQCKDKEATKLTEERDGS LNQ
+	MLCCMRRTKQV
+	KLNPPDESGPGCMSCKCVLS
	KMSKDGKKKKKKSKTKCVIM
+	KMSKDGKKKKKKSKTKCCIL
+	LAT: MEEAILVPCVLG LLLLPI LAMLMALCVHCH
	Kir: RAQL LKSRITSEGEYIPLDQIDINVGFD SG
	ER: NANSFCYENEVALTSK

on, PBC: polybasic cluster, TM: transmembrane helix