

Supplementary

A

	10	20	30	40	50	60	
pEGFR-cSH2	GSPIPHHDEK	TWNVGSSNRN	KAENLLRGKR	DGTFLVRESS	KQGCYACSVV	VDGEVKHCVI	
C1	GSPIPHHDEK	TWNVGSSNRN	KAENLLRGKR	DGTFLVRESS	KQGCYACSVV	VDGEVKHCVI	
C2	GSPIPHHDEK	TWNVGSSNRN	KAENLLRGKR	DGTFLVRESS	KQGCYACSVV	VDGEVKHCVI	
C3	GSPIPHHDEK	TWNVGSSNRN	KAENLLRGKR	DGTFLVRESS	KQGCYACSVV	VDGEVKHCVI	
C4	GSPIPHHDEK	TWNVGSSNRN	KAENLLRGKR	DGTFLVRESS	KQGCYACSVV	VDGEVKHCVI	
	70	80	90	100	109		
pEGFR-cSH2	NKTATGYGFA	EPYNLYSSLK	ELVLHYQHTS	LVQHNDSLNV	TLAYPVYQA		
C1	NKTATGYGFA	EPYNLYSSLK	ELVLHYQHTS	LVQHNDSLNV	TLAYPVYQA		PI3K p85α
C2	NKTATGYGFA	EPYNLYSSLK	ELVLHYQHTS	LVQHNDSLNV	TLAYPVYQA		cSH2 domain
C3	NKTATGYGFA	EPYNLYSSLK	ELVLHYQHTS	LVQHNDSLNV	TLAYPVYQA		
C4	NKTATGYGFA	EPYNLYSSLK	ELVLHYQHTS	LVQHNDSLNV	TLAYPVYQA		

B

	10	20	30	40	50	60	
pEGFR-nSH2	---MSLQNAEW	YWGDISREEV	NEKLRTADG	TFLVRDASTK	MHGDYTLTLR	KGGNNKLIKI	
N1	NNMSLQNAEW	YWGDISREEV	NEKLRTADG	TFLVRDASTK	MHGDYTLTLR	KGGNNKLIKI	
N2	--NMSLQNAEW	YWGDISREEV	NEKLRTADG	TFLVRDASTK	MHGDYTLTLR	KGGNNKLIKI	
N3	NNMSLQNAEW	YWGDISREEV	NEKLRTADG	TFLVRDASTK	MHGDYTLTLR	KGGNNKLIKI	
N4	--NMSLQNAEW	YWGDISREEV	NEKLRTADG	TFLVRDASTK	MHGDYTLTLR	KGGNNKLIKI	
	70	80	90	100	110		
pEGFR-nSH2	FHRDGKYGFS	DPLTFSSVVE	LINHYRNESL	AQYNPKLDVK	LLYPVSKYQQ	107	
N1	FHRDGKYGFS	DPLTFSSVVE	LINHYRNESL	AQYNPKLDVK	LLYPVSKYQQ	110	PI3K p85α
N2	FHRDGKYGFS	DPLTFSSVVE	LINHYRNESL	AQYNPKLDVK	LLYPVSKYQQ	DQVVKE 115	nSH2 domain
N3	FHRDGKYGFS	DPLTFSSVVE	LINHYRNESL	AQYNPKLDVK	LLYPVSKYQQ	110	
N4	FHRDGKYGFS	DPLTFSSVVE	LINHYRNESL	AQYNPKLDVK	LLYPVSKYQQ	DQVVKE 115	

Figure S1. Sequence alignment of C1-C4 and N1-N4 to pEGFR-cSH2 and pEGFR-nSH2 to find the overlap of the residues important for CaM-p85α and pEGFR-p85α interactions. Important residues are in red.

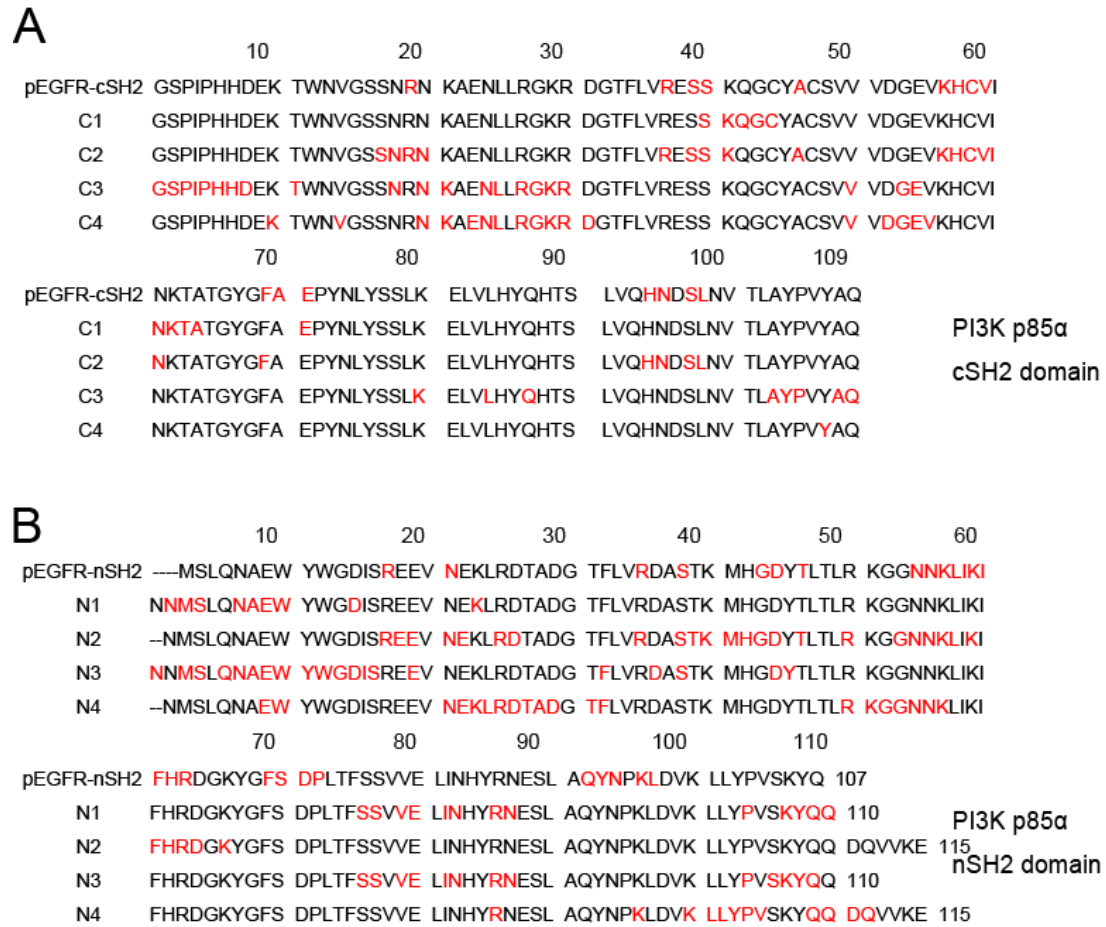


Figure S2. Sequence alignment of C1-C4 and N1-N4 to pEGFR-cSH2 and pEGFR-nSH2 to find the overlap of the interface residues (red) within CaM-p85α and pEGFR-p85α interactions.

Table S1. Summary of the hydrogen bonds and salt bridges formed between CaM and cSH2 in the C2

Number	H Bonds	Distance (Å)
Hb1	CaM-D47-OD1...cSH2-R37-NH1	3.20
Hb2	CaM-D47-OD1...cSH2-R37-NH2	2.83
Hb3	CaM-D47-OD2...cSH2-R37-NH1	2.98
Hb4	CaM-G56-O...cSH2-R19-NH1	3.66
Hb5	CaM-E79-OE1...cSH2-K41-HZ3	1.94
Number	Salt Bridge	Distance (Å)
Sb1	CaM-D47-OD1...cSH2-R37-NH1	3.20
Sb2	CaM-D47-OD1...cSH2-R37-NH2	2.83
Sb3	CaM-D47-OD2...cSH2-R37-NH1	2.98
Sb4	CaM-E79-OE1...cSH2-K41-NZ	2.87

Table S2. Summary of the hydrogen bonds formed between CaM and nSH2 in the N2

Number	H Bonds	Distance (Å)
Hb1	CaM-K26-HZ2···nSH2-E21-OE2	1.78
Hb2	CaM-N49-HD21···nSH2-N53-OD1	1.81
Hb3	CaM-Q139-HE22···nSH2-H61-O	2.24
Hb4	CaM-D54-O···nSH2-N20-HD21	2.35
Hb5	CaM-D54-OD1···nSH2-R24-HE	2.05
Hb6	CaM-D54-OD1···nSH2-R24-HH11	1.81
Hb7	CaM-E41-OE1···nSH2-R34-HH12	1.96
Hb8	CaM-E41-OE1···nSH2-R34-HH22	1.85
Hb9	CaM-E41-OE2···nSH2-S37-H	1.96
Hb10	CaM-E41-OE2···nSH2-T38-H	2.08
Hb11	CaM-Q45-OE1···nSH2-L56-H	2.28
Hb12	CaM-E41-OE2···nSH2-K58-HZ2	1.99
Hb13	CaM-Q139-O···nSH2-R62-HE	1.68
Hb14	CaM-Q139-O···nSH2-R62-HH11	2.23
Hb15	CaM-E123-OE2···nSH2-K65-HZ1	1.96
Number	Salt Bridge	Distance (Å)
Sb1	CaM-K26-NZ···nSH2-E21-OE1	3.57
Sb2	CaM-K26-NZ···nSH2-E21-OE2	2.76
Sb3	CaM-D54-OD1···nSH2-R24-NE	2.97
Sb4	CaM-D54-OD2···nSH2-R24-NE	3.37
Sb5	CaM-D54-OD1···nSH2-R24-NH1	2.76
Sb6	CaM-E41-OE1···nSH2-R34-NH1	2.85
Sb7	CaM-E41-OE1···nSH2-R34-NH2	2.71
Sb8	CaM-E41-OE2···nSH2-K58-NZ	2.90
Sb9	CaM-E123-OE2···nSH2-K65-NZ	2.83
Sb10	CaM-E123-OE1···nSH2-K65-NZ	3.33