

Supplemental Figure 1.

Sequence alignment of IK regions of UNC-89, obscurin and SPEG using ClustalW.

UNC-89	--NDEKLKTEPLSADTLREFKYQHKWLERRVFVQQTP-SEQILEAILGPATAQAQQ---N	54
OBSC	LKSMPAEEAHFINTKQLKFLRLARSQRSLMSYKSILVMRSIPELLRGPPDSPSLGVARH	60
SPEG	---KTQAKGAEVSTDHLKLFLSRRRWQRSQISYKCHLVLRPIPELLRAPPERVWVTMPRR	57
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UNC-89	APVAPEG-----RRPAEIYDYLRIQPKKPPPTVEYVPQPRKEHPPFIDFGQLIDG---	105
OBSC	LCRDTGGSSSSSSSDNELAPFARAK-----SLPP-----SPVT	94
SPEG	PPP-SGGLSSSSDSEEELEELPSVP-----RPLQPEFSGSRVSLTDIPTE	102
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UNC-89	-DAFDRPEGTG-----F-----EGPHRQPPQIPPPQPRPNQAAHDSRRHEQQPQHQ	150
OBSC	HSPLLHPRGFLRPSASLPEEAEASERSTEAPAPPASP-EGAGPPAAQGCVPRHVSIR---	150
SPEG	DEALGTPETGAATPMDWQEQGRAPSQDQEAPEALP-SPGQE-PAAGASPRRGELRRGS	160
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UNC-89	GQP---QRIPVDQYGRPLVDPRYLNDPSHRPSSLDDAPFYVDKYGNPVHFDKYGRPMAPQ	207
OBSC	-----SLFYHQAGESPE-----HGA----LAPG--SRRHP--	174
SPEG	SAESALPRAGPRELGRGLHKAASVELPQRRSPSPGATRLARGG----LGEGEYAQRLQ--	214
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UNC-89	NLEKRKLIPQDKGETPSHSHKKEKTQHPVATPILASPGGDQQQQKI-----P	253
OBSC	-ARRRHLLKGGY-----IAGALPGLREPLMEHRVLEEEAAREEQATLLAKAPSFETA	225
SPEG	-ALRQRLLRGGP-----EDGKVSGLRGPLESLGGRARDPRMARAASSEAPHHQPP	265
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UNC-89	MR-----MIRGERREIEE-EIANRILSDISEEGSIAG	284
OBSC	LRLPASGTHLAPGHSLSLEHDSPTPRPSSEACGEAQLRPSAPSGGAP---IRDMGHPQ-	281
SPEG	LE--NRG--LQKSSSFS---QGEAEPRGRHRRAGAPLEIPVARLGARR---LQESPSLS-	314
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UNC-89	SLASLEDFEIPKDFQVEASEPSTPTLTPEVTIRETIPKTPSPPTSPQKSPVP-----	336
OBSC	----G-----SKQLPSTGGHPGTAQ-----PE-----RSPDPSWPQGPPAP-FCHPKQG	319
SPEG	---AL-----SEAQPSSPARPSAPK-----PSTPKSAEPSATTPSDAPQPPAPQPAQD	359

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UNC-89 -----QPQGLLIIPAK-----VTYSDS----ILAGLPAADKKVLEDA 368

OBSC SAPQEGCSPHPAVAPCPPGSFPPGSCKEAPLVPSSPF-----LGQPQA----- 362

SPEG KAPEPRPEPVRAASKPAPPP-----QALQTLALPLTPYAQIIQSLQLSGHAQGP----- 407

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UNC-89 ENDPSIPVGAPLFLLEGLHGSDLTIDTTSASGLIKVTSPAINLSPNPKSPRRSTPGTKSPV 428

OBSC ---PPAPAKASPLDSKMG-----PGDISLPGRPKPGPCSSPGSASQA 402

SPEG SQGPAAPPSEPKPHA AVFA-----RVASPPPGAPEKRVPSAGGPP--- 447

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UNC-89 VLSPRQEHSMEVLIATKRKPGFLPPGELAEDIDDEDAFMDDRKKQVKPKDHDGENDFKD 488

OBSC ---SSSQVSSLRVGSSQVGTEPGPSLDAE-GWTQEAEDLSDS-T-----PTLQR 446

SPEG -----VLAEKARVPTVPPRPGSSLSSS-IENLESEAVFE-----AKFKR 485

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UNC-89 EKERLEKDKNRRTVNLDDLDKYRP--SAFYKDDSDFGHPGY----- 527

OBSC PQEQ-----AT---MR---KFSLGGRGYAGVAGYGTFAFGGDAGGMLGQGPMWARIAW 494

SPEG SRES-----PLSLGLRLLSRSRSEERGPFGRGAE-----EEDGIYRPSAGTPLEL 530

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UNC-89 -----DIDATPWD 535

OBSC AVSQSEEEEQEEARAESQSEEQGEARAE--SPL-PQVSARPVPEVGRAPTRSSPEPTPWE 551

SPEG VRR-----PERSRSVQDLRAVGEPGLVRRLSLSLSQRLR RTP--PAQRHPAWE 576

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UNC-89 SHYQIGPDTYLMAARGAAFNRSVRNYREELFGMGAPT VKQGLGVRNRDITVRERRRYTD 595

OBSC DIGQVSLVQIR---DL-----SG----- 566

SPEG ARGGDGESSEG---GS-----SA----- 591

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UNC-89 ILRETTQGLEPKSHEQSTALLQKAPSATAIERIKADIEKVTPCATKKND DGT----- 647

OBSC -----DAE----AADTISLDISEVDPAYLNLSDLYDIK-YLPFE 600

SPEG -----RGSPVLAMRRRLSFTLERLSSRLQRSGSSEDSGGASGRS 630

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UNC-89	-----	647
OBSC	FMI FRKVPKSA---QPEPPSPMAEEELAEFPEPTWPWPGELGPHAGLEITEESEDVDALL	657
SPEG	TPLFGRLRRATSEGESLRRLGLPHNQLAAQAGATTPSAESLGSEASAT-----SGSS	682

UNC-89	-----	647
OBSC	AEEAVGRKRKWSSPSRSLFHFPGRHLPLDEPAELGLRERVKASVEHISRILKGRPEGLEK	717
SPEG	APGESRSRLRWGF-----SRPRKDKGLSPPN---LSASVQEELGHQ--YVRS-----ES	726

UNC-89	-----	647
OBSC	EGP PRKKPGLASFRLSGLKSWDRA	741
SPEG	-----DFP-----	729