

**Table S4. RNA-binding domains in Human SPTAN1 aligned to *Drosophila*  $\alpha$ -Spectrin**

Region	Alignment of Human SPTAN1 and <i>Drosophila</i> $\alpha$ -Spectrin (RNA-binding domains are highlighted in orange)			
1	Human	140	HRQWELLLEKMKREKGIKLLQAQKLVQYLRECEDVMDWINDK <b>EAI</b> VTSEELGQDLEHVEVLQ <b>K</b> KFE	204
	Fly	131	HKLWELLLSRLAEKGLKLQQAALVLVQFLRQCEEVFWIKDKETFTVTADEFGQDLEHVEVLQ <b>R</b> KFD	195
2	Human	270	QRFNRDVDETISWIK <b>EKE</b> QLMASDDFGRDLASVQ <b>ALLR</b> KHEGLERDLAALEDKVKALCAEADRLQ	334
	Fly	261	QRFNRADETVAWIAEKDVVLSDDYGRDLASVQALQ <b>R</b> KHEGVERDLAALEDK <b>V</b> STLGAE <b>AQ</b> RLC	325
3	Human	530	AQEEKITALDEFATK <b>L</b> IQNNHYAMEDVATRDRDALLSRNALHERAMRRRAQLADSFHLQ <b>Q</b> FFRDS	594
	Fly	521	AQEEKIKALDIFATKLIDGQHYAADDVAQRQMLLARRAALQ <b>E</b> KSSKRRQLLED <b>S</b> NR <b>Y</b> QQFERDC	585
	Human	595	<b>DEL</b> KSWVNEKMKMTATDEAYKDP <b>S</b> NLGK <b>V</b> QKHQAFEAELS <b>AN</b> QSRIDALEKAGQKLIDVNHYAKD	659
	Fly	586	DETKGWISEK <b>L</b> KFATDDSYLDPTNLNGKM <b>Q</b> KHQNFEHEL <b>N</b> ANKSRIEDITNVGT <b>E</b> LIEKQHYAAD	650
4	Human	790	QKLADSLRLQQLFRDVEDEETWIREKEPIAASTNR <b>G</b> KDLIGVQNLLKKHQALQAEIAGHE <b>P</b> RIKA	854
	Fly	781	QHLLDSLQVQQLFRDLEDEAAWIREKEPIAASTNRGRDLIGVQN <b>L</b> IKKHQAVLAEINNHEAR <b>L</b> LN	845
5	Human	1179	VQAVQQQEVYGMMPREDTDSKTASFWKSARLMVHTVATFNSIK <b>E</b> LNERWRS <b>L</b> QQLAEERS <b>Q</b> LLGS	1243
	Fly	1145	-----QTE-----AALKIQT-----QMQDLNEKWN <b>N</b> LQTLTAEKASQLGS	1179
	Human	1244	<b>A</b> HEVQRFHRDADETK <b>E</b> WIEEK <b>N</b> QALNTDNYGHDLASVQALQ <b>R</b> KHEGFERDLAALGDKVNSLGETA	1308
	Fly	1180	<b>A</b> HEVQRFHRDIDETKDWIAEKANALNNDDLGLKDLRSVQTLQ <b>R</b> KHEGVERDLAALRDKIRQLDETA	1244
6	Human	1797	IK <b>E</b> KKLLVGSE <b>D</b> YGRDLTG <b>V</b> QN <b>L</b> RK <b>K</b> HKRLEAEALAAHEPAIQGVLDTGKKLSDDNTIGKEEIQQR	1861
	Fly	1760	IK <b>E</b> KKLLVGSD <b>D</b> YGRDLTG <b>V</b> QN <b>L</b> KK <b>K</b> HKRLEAE <b>L</b> GSHEPAIQAVQ <b>E</b> AGEK <b>L</b> MDVSNLGV <b>P</b> EIEQR	1824
7	Human	2057	KDQLLA <b>A</b> KHVQSKAIEARHASLMK <b>R</b> WSQLLANSAAR <b>K</b> KK <b>L</b> LEAQ <b>S</b> HFRKVEDLFLTFAKKASAFN	2121
	Fly	2020	KDQLINASHAQSPAILKR <b>H</b> GDVIARWQKL <b>R</b> DA <b>S</b> TRKDRLLAMQ <b>E</b> QFRQIEELYLTFAKKASAFN	2084