

### Figure S4: Sequence alignments of the SQDAR 69-73 segment.

This sequence alignment shows how the residues highlighted in yellow are well conserved in the CRT groups 1 and 2; less conserved in groups 3 and 4; and not conserved in the group 5. The following F74 (green) is found in most of the CRT-like sequences, except for the plant group 4. It is not present in the CNX-like group 5 sequences. Details corresponding to the sequence names are given in Figure S2.

GROUP_1		GROUP_3	
human_GB_CRT	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SPT_Q4R3W0_MACFA	GLQTT <span style="background-color: orange;">TQN</span> GRFYAI
SPT_A8E4J9_9ACAR	GIQT <span style="background-color: yellow;">SEDARFYGL</span>	SPT_B1Q2L7_MOUSE	GLQTT <span style="background-color: orange;">QNS</span> RFYAI
SPT_Q64K99_9ACAR	GLQT <span style="background-color: yellow;">SEDARFYGI</span>	SW_CALR3_HUMAN	GLQTT <span style="background-color: orange;">QN</span> GRFYAI
SPT_B5X0V5_SALSA	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SPT_Q3TQS0_MOUSE	GLQTT <span style="background-color: orange;">TEDA</span> KFYAL
SW_CALR_RABBIT	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SPT_D3ZYM6_RAT	GLQTT <span style="background-color: orange;">TEDA</span> KFYAL
SPT_Q64K76_IKOPE	GIQT <span style="background-color: yellow;">SEDARFYGL</span>	SPT_C1N041_9CHLO	GIQTSADARFYAL
SPT_Q7ZXY3_XENLA	GLQT <span style="background-color: yellow;">SQDARFYAM</span>	SPT_O45034_SCHJA	GLKTT <span style="background-color: orange;">QDARFY</span> GI
SPT_Q68HD1_IKOSC	GIQT <span style="background-color: yellow;">SEDARFYGL</span>	SPT_C4Q5I7_SCHMA	GLKTT <span style="background-color: orange;">QDARFY</span> GI
SPT_B5X207_SALSA	GLQT <span style="background-color: yellow;">SQDAHFYSS</span>	SPT_C8XTL8_9EUKA	GIMTT <span style="background-color: orange;">QDAKF</span> YAL
SPT_Q64K83_9ACAR	GIQT <span style="background-color: yellow;">SEDARFYGL</span>	SPT_D3BIF1_POLPA	GIQTSPDARFYAI
SW_CALR_MACFA	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SW_CALR_EUGGR	GIQTSQDAKFYAI
SPT_Q9U6S0_STRPU	GIQT <span style="background-color: yellow;">SQDAKFYGL</span>	SPT_C4M296_ENTHI	GLQTSEDNKFYIA
SPT_A5D7J6_BOVIN	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SPT_B7GDH4_PHATR	GIQTSVDARFFGI
SPT_A1YB06_EISFO	GLQTT <span style="background-color: yellow;">QDARFYGI</span>	SPT_Q967S4_TRYCO	GLRLTEDARFYAL
SPT_Q98984_RANRU	GLQT <span style="background-color: yellow;">SQDAKFYAH</span>	SPT_A4HJP8_LEIBR	GVKLTEDSKFYAI
SPT_B3S3X6_TRIAD	GIQT <span style="background-color: yellow;">SQDARFYAV</span>	SPT_Q4Q601_LEIMA	GLKLMEDAKFYAV
SPT_Q6NVT6_XENTR	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SPT_Q4CPZ0_TRYCR	GLRLTEDARFYAL
SPT_A5LGG9_CRAGI	GIQT <span style="background-color: yellow;">SQDAKFYGI</span>	SPT_C8CIJ1_9TRYP	GLQLT <span style="background-color: orange;">QDARFY</span> AV
SW_CALR_CRIGR	GLQT <span style="background-color: yellow;">SQDARFYAL</span>	SPT_Q9XYF8_TRYCR	GLRLTEDARFYAL
SPT_A6YIE3_PINFU	GIQT <span style="background-color: yellow;">SQDAKFYGI</span>	SPT_C5L9W8_9ALVE	GLKTAEDHRYYAY
SPT_Q6WSQ2_RHISA	GLQT <span style="background-color: yellow;">SEDARFYGI</span>	SPT_C5LE92_9ALVE	GLKTAEDHRYYAY
SPT_Q64K91_DERAN	GLQT <span style="background-color: yellow;">SEDARFYGI</span>	SPT_C5LZP6_9ALVE	GLKTAEDHRYYAY
SPT_Q64K92_9ACAR	GLQT <span style="background-color: yellow;">SEDARFYGI</span>	SPT_D0NR25_PHYIN	AIKTSEDARFYAL
SPT_Q0VJ74_9BILA	GLKT <span style="background-color: yellow;">SQDAKFYSR</span>	SPT_A8PEL1_BRUMA	GLTTTEDVKNYAI
SPT_Q64K89_DERVA	GLQT <span style="background-color: yellow;">SEDARFYGI</span>		
SPT_O97372_DIRIM	GLKTT <span style="background-color: yellow;">QDAKFYSI</span>		
SPT_Q9PUC1_DANRE	GLQT <span style="background-color: yellow;">SQDARFYAL</span>		
SPT_C5MRN9_9BILA	GLKTAQDARFYSI		
SPT_Q26268_APLCA	IQT <span style="background-color: yellow;">SQDARFYGL</span>		
SW_CALR_ONCVO	GLKTT <span style="background-color: yellow;">QDAKFYSI</span>		
SPT_A9C3S5_DANRE	GLQT <span style="background-color: yellow;">SQDAHFYAM</span>		
SPT_B8K275_FENCH	GIQT <span style="background-color: yellow;">GQDARFYGL</span>		
SPT_Q8IS63_COTRU	GIQT <span style="background-color: yellow;">TEDARFYAL</span>		
SPT_Q8WR36_ANOGA	GLQT <span style="background-color: yellow;">SQDARFYAL</span>		
SPT_Q17MI1_AEDAE	GLQT <span style="background-color: yellow;">SQDARFYAA</span>		
SPT_C1BVC1_9MAXI	GIQT <span style="background-color: yellow;">SQDARFYAL</span>		
SPT_D3TM69_GLOMM	GLQT <span style="background-color: yellow;">SQDARFYAI</span>		
GROUP_2		GROUP_4	
SPT_Q7Y140_ORYSJ	GIQT <span style="background-color: yellow;">SEDYRFYAI</span>	SPT_C6TCW1_SOYBN	GIQTSSDAKHFAI
SPT_A9SCB3_PHYP	GIQT <span style="background-color: yellow;">STD</span> SRYYAI	SPT_B6TA28_MAIZE	GIQTTIDARHFAI
SW_CALR_BERST	GIQT <span style="background-color: yellow;">SEDYRFYAI</span>	SPT_C5XET1_SORBI	GIQTTMDARHFAI
SPT_C4PB36_CARPA	GIQT <span style="background-color: yellow;">SEDYRFYAI</span>	SPT_B8LRK0_PICSI	GIQTYPDARHYAI
SW_CALR1_ARATH	GIQT <span style="background-color: yellow;">SEDYRFYAI</span>	SPT_B4FUA8_MAIZE	GIQTTIDARHFAI
SPT_A9NS22_PICSI	GIQTHPDARFFAI	SPT_C5Z0S1_SORBI	GIQTTGDAKHFAI
SPT_Q5MCL9_WHEAT	GIQT <span style="background-color: yellow;">SEDYRFYAI</span>	SPT_Q8GUI1_ARATH	GIQTYNDAKHYAI
SPT_O22502_BRANA	RPARTTDSTPSQL	SPT_B9MY68_POPTR	GIQTYNDAKHFAI
SPT_B9F6V5_ORYSJ	GIQT <span style="background-color: yellow;">SEDYRFYAI</span>	SPT_Q8LJ85_ORYSJ	GIQTTLDARHFAI
		SPT_B8AZS4_ORYSI	GIQTTSDAKHFAI
GROUP_5			
		SPT_B5M4U3_9STRA	GLVL <span style="background-color: red;">DKPARHY</span> GL
		SPT_A9PHA6_POPTR	GLLV <span style="background-color: red;">SEP</span> AKKYAI
		SW_CALX_PEA	GLLV <span style="background-color: red;">SEP</span> ARKYAI
		SW_CALX_RAT	GLVLMSRAKHAI
		SPT_B4R3M8_DROSI	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_Q9TVF3_SCHJA	ALVL <span style="background-color: red;">KS</span> AKHHAV
		SPT_A2E253_TRIVA	LFKMKAASKYYGA
		SPT_A8K454_HUMAN	GLVL <span style="background-color: red;">KS</span> RAKHAI
		SPT_Q80YU3_MOUSE	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_Q7Q9V3_ANOGA	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_B4JYJ8_DROGR	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_D1ZZU8_TRICA	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_Q0KHZ9_DROME	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_Q9I7S9_DROME	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_B4IF87_DROSE	GLVL <span style="background-color: red;">KS</span> AKHAAI
		SPT_Q6ZP56_HUMAN	GLVLMSRAKHAI