

Figure S5. Multiple alignment of GH24v motif sequences.

		10	
tr	Q7M2A4	Q7M2A4_BPT2
tr	Q06EK2	Q06EK2_BPR32	IYKDT EG Y Y TIGIGHL
tr	C3V2B5	C3V2B5_BPR51	IYKDT EG Y Y TIGIGHL
tr	C3V1I9	C3V1I9_9CAUD	IYKDT EG Y Y TIGIGHL
tr	Q7Y2B5	Q7Y2B5_BPR69	LYKDT EG F W TIGIGHL
tr	C4MZK9	C4MZK9_9CAUD	LYKDT EG Y W TIGIGQL
tr	A8R9C2	A8R9C2_9CAUD	LYKDT EG Y W TIGIGQL
tr	Q56EM5	Q56EM5_9CAUD	VYWD SE GYPTVGIGHL
tr	Q6U9G4	Q6U9G4_9CAUD	VYWD SE GYPTVGIGHL
tr	Q19CN7	Q19CN7_9CAUD	VYWD SE GYPTVGIGHL
tr	Q6U979	Q6U979_9CAUD	VYWD HL GYPTVGIGHL
tr	Q56EE1	Q56EE1_9CAUD	VYWD HL GYPTVGIGHL
tr	Q19CF2	Q19CF2_9CAUD	VYWD HL GYPTIGIGHL
tr	Q76YA6	Q76YA6_9CAUD	VYWD TE GYPTIGIGHL
tr	Q8SDG3	Q8SDG3_9CAUD	WYLD SE GYPTIGIGHL
tr	A7XF92	A7XF92_9CAUD	WYLD SE GYPTIGIGHL
tr	C4MYV6	C4MYV6_9CAUD	WYLD SE GYPTIGIGHL
tr	Q76YN5	Q76YN5_9CAUD	WYLD SE GYPTIGIGHL
tr	Q56BJ4	Q56BJ4_9CAUD	WYYD VK GY-TIGIGHF
tr	Q06EH6	Q06EH6_BPR32	VYWD TE GYPTIGIGHL
tr	C3V1L1	C3V1L1_9CAUD	VYWD TE GYPTIGIGHL
tr	C3V2D8	C3V2D8_BPR51	VYWD TE GYPTIGIGHL
tr	Q7Y4Y4	Q7Y4Y4_BPR69	VYWD HL GYPTVGIGHL
tr	C4MZP0	C4MZP0_9CAUD	VYWD TE GYPTIGIGHL
tr	Q5QBY1	Q5QBY1_9CAUD	VYWD TE GYPTIGIGHL
tr	A4G7B2	A4G7B2_HERAR	AYQ DH LGF W TIGVGIL
tr	A6T031	A6T031_JANMA	AYE DH LS F L T IGIGRL
tr	A9I970	A9I970_BORPD	AYR DH L G Y L TIGVGRN
tr	B9CB79	B9CB79_9BURK	IYVD TV G K V S GGIGRN
tr	B9BQE8	B9BQE8_9BURK	IYVD TV G K V S GGIGRN
tr	B9CGW2	B9CGW2_9BURK	IYVD TV G K V S GGIGRN
tr	B9BX46	B9BX46_9BURK	IYVD TV G K V S GGIGRN
tr	B9BBE6	B9BBE6_9BURK	IYID TV G K V S GGIGRN
tr	A2W8F0	A2W8F0_9BURK	IYVD TV G K V S GGIGRN
tr	Q2T018	Q2T018_BURTA	IYTD TV G K V S GGIGRN
tr	C5AEP5	C5AEP5_BURGB	PYVD TV G K I T IGVGRN
tr	B9TDP0	B9TDP0_RICCO	PYLD TK GI Q TTAVGHN
tr	B0VGF1	B0VGF1_9BACT	PYRC T AG K L T IGIGRN
tr	B0VF72	B0VF72_9BACT	PYRC T AG K L T IGIGRN
tr	Q5N403	Q5N403_SYNP6	PYRC T AG R L T IGIGRN
tr	Q31Q81	Q31Q81_SYNE7	PYRC T AG R L T IGIGRN
tr	A6F0L1	A6F0L1_9ALTE	PYLD TV G K L T VGYGRN
tr	A9MK11	A9MK11_SALAR	PYID AL GYPTVG V G F K
tr	A8T9J0	A8T9J0_9VIBR	PYYC SE GYPTIGIG Q K
tr	Q5G7N2	Q5G7N2_9CAUD	PYK D SLGYPTIGY G I K
tr	C8PDP7	C8PDP7_9PROT	IYK D SLG K ATIGY G F L
tr	C8PIK2	C8PIK2_9PROT	IYED TR GY K TIGY G F L
tr	C9PG81	C9PG81_VIBFU	PYRC SN Q K L T IGYGRN
tr	A9ZHG7	A9ZHG7_COXBU	LYK D SVG K WTIGYGRN
tr	A9KG49	A9KG49_COXBN	LYK D SVS K WTIGYGRN
tr	B6J707	B6J707_COXB1	LYK D SVG K WTIGYGRN
tr	Q83CS4	Q83CS4_COXBU	LYK D SVG K WTIGYGRN
tr	A9NCQ7	A9NCQ7_COXBR	LYK D SVG K WTIGYGRN
tr	B6J063	B6J063_COXB2	LYK D SVG K WTIGYGRN
tr	A8EV01	A8EV01_ARCB4	VYK C PAG F D T IGYGRN
tr	C1SGF3	C1SGF3_9BACT	PYVC P AG K WTIGYGRN
tr	Q933T0	Q933T0_HELPY	IYTD K T G H P TIGYGRN
tr	O25106	O25106_HELPY	IYTD K T G H P TIGYGRN
tr	B6JKR4	B6JKR4_HELP2	IYTD K T G H P TIGYGRN
tr	D0JYN5	D0JYN5_HELP5	VYAD K T G H P TIGYGRN
tr	B9XTI9	B9XTI9_HELPY	IYTD K T G H P TIGYGRN
tr	A9V884	A9V884_MONBE	TYVD T T G H K T I CYGFN
tr	A7S7F4	A7S7F4_NEMVE	MYLD I K G I K TIGVGRN
tr	Q22BQ6	Q22BQ6_TETTH	VYLD TK GI P TIGIGFN
tr	B5QB53	B5QB53_SALVI	VYK DH L G Y P TIGY G H L
tr	A7MG17	A7MG17_ENTS8	PYND TE GF L TVGF G H K
tr	A4SN28	A4SN28_AERS4	RYK D SLGY W TIGY G H L
tr	Q8H9R6	Q8H9R6_9CAUD	WYK D SLGY W TGGY G H L
tr	A9J749	A9J749_9CAUD	WYK D SL G K I TGGY G H L
tr	C6DKJ8	C6DKJ8_PECCP	KYRD T AG K WTIGY G H L
tr	Q8GCR0	Q8GCR0_PECCC	KYRD T AG K WTIGY G H L
tr	C9XUR2	C9XUR2_CROTZ	KYQ D AV G K W TIGY G H L

tr	C6BJ95	C6BJ95_RALP1	TYLDAVGKPTIGYGHL
tr	B2UGR3	B2UGR3_RALPJ	TYLDAVGKPTIGYGHL
tr	D3F184	D3F184_ACTN	PYDDPAGHATVGYGHL
tr	C8N775	C8N775_9GAMM	MYYDAAGLPTIGVGH
tr	C8NCA4	C8NCA4_9GAMM	MYLDSAGLPTIGVGH
tr	A3YYR1	A3YYR1_9SYNE	PRIDSLGNTVIGFNHV
tr	C9MTK8	C9MTK8_9BACT	PYNDKSGFATIGVGH
tr	C7Z8W0	C7Z8W0_NECH7	IYKDAAGYPTVGYGHL
tr	Q2GND9	Q2GND9_CHAGB	VYNDPAGHPVTVGYGHL
tr	C7Z967	C7Z967_NECH7	VYIDATGNPTVGYGHL
tr	C5AYQ1	C5AYQ1_METEA	AYRDSVGVVWTIGIGHT
tr	A9W2L1	A9W2L1_METEP	AYRDSVGVVWTIGIGHT
tr	C7CKV4	C7CKV4_METED	AYRDSVGGWTIGIGHT
tr	B7KTM6	B7KTM6_METC4	AYRDSVGVVWTIGIGHT
tr	B1ZE94	B1ZE94_METPB	AYRDSVGVVWTIGIGHT
tr	B0UJ17	B0UJ17_METS4	AYKDSVGVVWTIGVGT
tr	B5PT00	B5PT00_SALHA	AYPDSRGIPTIGVGHT
tr	A9MNN1	A9MNN1_SALAR	AYPDSRGIPTIGVGHT
tr	Q5G8R3	Q5G8R3_9CAUD	AYPDSRGIPTIGVGHT
tr	Q56117	Q56117_9CAUD	AYPDSRGIPTIGVGHT
tr	Q5PG10	Q5PG10_SALPA	AYPDSRGIPTIGVGHT
tr	B5FLT9	B5FLT9_SALDC	AYPDSRGIPTIGVGHT
tr	B5BDL3	B5BDL3_SALPK	AYPDSRGIPTIGVGHT
tr	B4A6C6	B4A6C6_SALNE	AYPDSRGIPTIGVGHT
tr	A8CGF4	A8CGF4_BPP22	AYSDSRGIPTIGVGHT
tr	A3VTL8	A3VTL8_9PROT	VYDDGVGIWTIGYGHT
tr	Q94ML9	Q94ML9_9CAUD	KAVPTEKHYTIGYGHY
tr	B3VMQ1	B3VMQ1_BPPH2	KAVPTEKHYTIGYGHY
tr	B7SSN6	B7SSN6_BPNF	KAVPTEKYTYTIGYGHY
tr	B4SF16	B4SF16_PELPB	TYVCPGGKLTIGYGHT
tr	B6SD17	B6SD17_9VIRU	AYQCSAGRWTIGYGHT
tr	B6SCY8	B6SCY8_9VIRU	AYQCRAGRWTLYYGHT
tr	Q2NTT9	Q2NTT9_SODGM	AYQCSADRWTIGYGHT
tr	Q2NTN7	Q2NTN7_SODGM	AYQCSADRWTIGYGHT
tr	Q6HAD9	Q6HAD9_9ENTR	AYQCSANVWSIGYGHT
tr	B6VNM2	B6VNM2_PHOAA	AYQCSANVWTIGYGHT
tr	Q2A096	Q2A096_9VIRU	AYQCRAGIWTIGYGHT
tr	Q4LBS9	Q4LBS9_SODGL	AYQCRAGIWTIGYGHT
tr	B9MGZ0	B9MGZ0_DIAST	PYICPAGYWTIGYGHL
tr	C6NTT6	C6NTT6_9GAMM	PYVCPAGYWTIGYGHL
tr	A6T1M1	A6T1M1_JANMA	PYVCPAGFWTIGYGHL
tr	C6XGM6	C6XGM6_LIBAP	RDIG--GGAWTIGYGHT
tr	D1Q094	D1Q094_9BACT	RDSG--GKPTIGYGHT
tr	C3X1U7	C3X1U7_OXAFO	AYQDSKGLWTIGYGHT
tr	C4U1T3	C4U1T3_YERKR	PYQCSAGVWTSIGIGHT
tr	C4SNR0	C4SNR0_YERFR	PYQCSAGVWTSIGIGHT
tr	C9XYT3	C9XYT3_CROTZ	PYQCSAGVWTSIGIGHT
tr	B7NIL7	B7NIL7_ECO7I	PYQCSAGVWTDGIGNT
tr	Q8FJH5	Q8FJH5_ECOL6	PYQCSAGVWTDGIGNT
tr	B7UMS0	B7UMS0_ECO27	PYQCSAGVWTDGIGNT
tr	B7MYT1	B7MYT1_ECO81	PYQCSAGVWTDGIGNT
tr	B5FS42	B5FS42_SALDC	PYQCSAGVWTDGIGNT
tr	A7ZYD1	A7ZYD1_ECOHS	PYQCSAGVWTDGIGNT
tr	Q8Z351	Q8Z351_SALTI	PYQCSAGVWTDGIGNT
tr	B7MJI0	B7MJI0_ECO45	PYQCSAGVWTDGIGNT
tr	B1IWU6	B1IWU6_ECOLC	PYQCSAGVWTDGIGNT
tr	C8QCC9	C8QCC9_9ENTR	PYQCDAGKWTGIGNT
tr	Q4FSX3	Q4FSX3_PSYA2	AYQDTGKVWTIGYGHT
tr	D0BX92	D0BX92_9GAMM	AYQDTGGVWTIGYGHT
tr	A9INC3	A9INC3_BART1	AYKDAIGVWTIGYGHT
tr	Q6G4P4	Q6G4P4_BARHE	AYKDAIGVWTIGYGHT
tr	A9IPJ6	A9IPJ6_BART1	AYKDAIGVWTIGYGHT
tr	C6AD90	C6AD90_BARGA	AYKDAIGVWTIGYGHT
tr	C6ABV9	C6ABV9_BARGA	AYKDAIGVWTIGYGHT
tr	A9IY00	A9IY00_BART1	AYKDAIGVWTIGYGHT
tr	C6AAE8	C6AAE8_BARGA	AYKDAIGVWTIGYGHT
tr	Q6G209	Q6G209_BARHE	AYQDSIGVWTIGYGHT
tr	Q6FYR6	Q6FYR6_BARQU	AYQDAVGLWTIGYGHT
tr	C6AD78	C6AD78_BARGA	AYRDTACVWTIGYGHT
tr	C6ABV0	C6ABV0_BARGA	AYRDTACVWTIGYGHT
tr	A9ITY9	A9ITY9_BART1	AYRDTACIWTIGYGHT
tr	A9IY31	A9IY31_BART1	AYRDTACIWTIGYGHT
tr	Q6G365	Q6G365_BARHE	AYRDASGVWTIGYGHT
tr	C6ADN3	C6ADN3_BARGA	AYQDTSGVWTIGYGHT
tr	A9IN99	A9IN99_BART1	AYEDSGGIWTIGYGHT
tr	C6ABT0	C6ABT0_BARGA	AYEYSGGVWTIGYGHT
tr	A1URH0	A1URH0_BARBK	AYQDAVGIWTIGYGHT

tr	Q7P041	Q7P041_CHRVO	AYQDMVGVWTIGYGHT
tr	Q8PNJ6	Q8PNJ6_XANAC	SYVCPAGKLTIGYGHT
tr	C8CLH9	C8CLH9_9CAUD	PYKDIVGVWTVCYGHT
tr	D2U1M6	D2U1M6_9ENTR	PYKDGGGVLTVCYGHT
tr	Q1RHJ8	Q1RHJ8_RICBR	PYYCPAGLKTIGYGHV
tr	A8GV89	A8GV89_RICB8	PYYCPAGLKTIGYGHV
tr	Q2N9G4	Q2N9G4_ERYLH	VYRDVAGYPTVGVGHL
tr	A3WB87	A3WB87_9SPHN	VYRDVAGYPTVGVGHL
tr	A5P716	A5P716_9SPHN	VYRDVAGYPTVGVGHL
tr	C3L4H1	C3L4H1_AMOA5	VYKDVAGIETIGYGHV
tr	C5AG15	C5AG15_BURGB	YYNDSKGYCTVGVGHL
tr	B2JV34	B2JV34_BURP8	YYDDSKGYCTVGVGHL
tr	A9MN07	A9MN07_SALAR	AYNDSSEGYCTIGYGHL
tr	Q8ZLC6	Q8ZLC6_SALTY	KYDRDQGNWVIGYGHM
tr	Q5PJR8	Q5PJR8_SALPA	KYDRDQGNWVIGYGHM
tr	D0ZKG2	D0ZKG2_SALT1	KYDRDQGNWVIGYGHM
tr	B5RGS1	B5RGS1_SALG2	KYDRDQGNWVIGYGHM
tr	B5R406	B5R406_SALEP	KYDRDQGNWVIGYGHM
tr	B5FKM6	B5FKM6_SALDC	KYDRDQGNWVIGYGHM
tr	B5BHQ0	B5BHQ0_SALPK	KYDRDQGNWVIGYGHM
tr	B4T8E1	B4T8E1_SALHS	KYDRDQGNWVIGYGHM
tr	B4SWF3	B4SWF3_SALNS	KYDRDQGNWVIGYGHM
tr	C9X727	C9X727_SALTD	KYDRDQGNWVIGYGHM
tr	B5P1B9	B5P1B9_SALET	KYDRDQGNWVIGYGHM
tr	B5MX04	B5MX04_SALET	KYDRDQGNWVIGYGHM
tr	B5C3G2	B5C3G2_SALET	KYDRDQGNWVIGYGHM
tr	Q57IL7	Q57IL7_SALCH	KYDRDQGNWVIGYGHM
tr	Q8Z279	Q8Z279_SALTI	KYDRDQGNWVIGYGHM
tr	C0Q164	C0Q164_SALPC	KYDRDQGNWVIGYGHM
tr	B4TZ04	B4TZ04_SALSV	KYDRDQGNWVIGYGHM
tr	B5Q7E2	B5Q7E2_SALVI	KYDRDQGNWVIGYGHM
tr	B5PC54	B5PC54_SALET	KYDRDQGNWVIGYGHM
tr	B5C9I7	B5C9I7_SALET	KYDRDQGNWVIGYGHM
tr	B5F9H2	B5F9H2_SALA4	KYDRDQGNWVIGYGHM
tr	A9MUN0	A9MUN0_SALPB	KYDRDQGNWVIGYGHM
tr	B5PRV6	B5PRV6_SALHA	KYDRDQGNWVIGYGHM
tr	B5NSD2	B5NSD2_SALET	KYDRDQGNWVIGYGHM
tr	B5ND52	B5ND52_SALET	KYDRDQGNWVIGYGHM
tr	B4A5H0	B4A5H0_SALNE	KYDRDQGNWVIGYGHM
tr	B3YCV0	B3YCV0_SALET	KYDRDQGNWVIGYGHM
tr	B5MHG3	B5MHG3_SALET	KYDRDQGNWVIGYGHM