

**Figure S6. Multiple alignment of GH24I motif sequences.**

			.... ....
tr	O30554	O30554_NEIGO	SDASGRYQF
tr	D1DW23	D1DW23_NEIGO	SDASGRYQF
tr	D1DJA2	D1DJA2_NEIGO	SDASGRYQF
tr	D1DCT5	D1DCT5_NEIGO	SDASGRYQF
tr	Q5K692	Q5K692_NEIGO	SDASGRYQF
tr	D1E2S1	D1E2S1_NEIGO	SDASGRYQF
tr	D1EFJ4	D1EFJ4_NEIGO	SDASGRYQF
tr	B9TBF9	B9TBF9_RICCO	TTAAGMYQI
tr	D1TAW4	D1TAW4_9BURK	TTAAGLYQI
tr	A2SGW7	A2SGW7_METPP	SSAAGRYQL
tr	D1UM48	D1UM48_9BURK	STAAGAYQF
tr	B2KJU8	B2KJU8_BURPS	SSAAGAYQF
tr	Q0K1M1	Q0K1M1_RALEH	SSAAGAYQF
tr	A7FIU8	A7FIU8_YERP3	TSAAGRYQF
tr	C4SUV2	C4SUV2_YERFR	TSAAGRYQF
tr	D2C286	D2C286_DICD5	TSAAGRYQF
tr	C5A0Z7	C5A0Z7_ECOBW	STGAGRYQL
tr	C6ZCX1	C6ZCX1_LAMBD	STGAGRYQL
tr	C5W1U5	C5W1U5_ECOBB	STGAGRYQL
tr	C6EJG0	C6EJG0_ECOBD	STGAGRYQL
tr	Q716B5	Q716B5_BPSFV	STAAGRYQL
tr	B7UG35	B7UG35_ECO27	STAAGRYQL
tr	Q0T7S1	Q0T7S1_SHIF8	STAAGRYQL
tr	B3H979	B3H979_ECOLX	STAAGRYQL
tr	C8UCS0	C8UCS0_ECO1A	STAAGRYQL
tr	A5VW81	A5VW81_9CAUD	STAAGRYQL
tr	A1ADL8	A1ADL8_ECOK1	STAAGRYQL
tr	Q1R938	Q1R938_ECOUT	STAAGRYQL
tr	B7MGZ0	B7MGZ0_ECO45	STAAGRYQL
tr	Q9MCT2	Q9MCT2_BPHK0	STAAGRYQL
tr	D3GYY0	D3GYY0_ECOLX	STAAGRYQL
tr	C6ZR65	C6ZR65_9CAUD	STAAGRYQL
tr	B9UDJ1	B9UDJ1_9CAUD	STAAGRYQL
tr	D2A7X6	D2A7X6_SHIF2	STAAGRYQL
tr	C8TV15	C8TV15_ECO26	STAAGRYQL
tr	C1HNI2	C1HNI2_9ESCH	STAAGRYQL
tr	Q9MCN4	Q9MCN4_BPHK7	STAAGRYQL
tr	Q77IT9	Q77IT9_BPHK6	STAAGRYQL
tr	Q57SQ6	Q57SQ6_SALCH	STAAGRYQL
tr	C0PZH3	C0PZH3_SALPC	STAAGRYQL
tr	A7ZWN9	A7ZWN9_ECOHS	STAAGRYQL
tr	B3BQ98	B3BQ98_ECO57	STAAGRYQL
tr	B3HV98	B3HV98_ECOLX	STAAGRYQL
tr	B3WIU8	B3WIU8_ECOLX	STAAGRYQL
tr	B3A9F3	B3A9F3_ECO57	STAAGRYQL
tr	B3AU10	B3AU10_ECO57	STAAGRYQL
tr	B2PPB9	B2PPB9_ECO57	STAAGRYQL
tr	B2NUN6	B2NUN6_ECO57	STAAGRYQL
tr	B2P6W5	B2P6W5_ECO57	STAAGRYQL
tr	B3B464	B3B464_ECO57	STAAGRYQL
tr	B3BIH7	B3BIH7_ECO57	STAAGRYQL
tr	B3BZ35	B3BZ35_ECO57	STAAGRYQL
tr	B6ZZG5	B6ZZG5_ECO57	STAAGRYQL
tr	B5YXF1	B5YXF1_ECO5E	STAAGRYQL
tr	C6URV2	C6URV2_ECO5T	STAAGRYQL
tr	Q8X705	Q8X705_ECO57	STAAGRYQL
tr	C1HJG8	C1HJG8_9ESCH	STAAGRYQL
tr	B7MJP3	B7MJP3_ECO45	STAAGRYQL
tr	A1AEH9	A1AEH9_ECOK1	STAAGRYQL
tr	Q1R868	Q1R868_ECOUT	STAAGRYQL
tr	C8U911	C8U911_ECO10	STAAGRYQL
tr	B7M8F2	B7M8F2_ECO8A	STAAGRYQL
tr	B3HTJ2	B3HTJ2_ECOLX	STAAGRYQL
tr	B2N2G4	B2N2G4_ECOLX	STAAGRYQL
tr	B3WTB5	B3WTB5_ECOLX	STAAGRYQL
tr	Q8Z617	Q8Z617_SALTI	STAAGRYQL
tr	B7NA40	B7NA40_ECOLU	STAAGRYQL
tr	Q8SBE0	Q8SBE0_BPSF5	STAAGRYQL
tr	B5FL63	B5FL63_SALDC	STAAGRYQL
tr	B7LJL2	B7LJL2_ESCF3	STAAGRYQL
tr	B3I771	B3I771_ECOLX	STAAGRYQL
tr	B2U3U2	B2U3U2_SHIB3	STAAGRYQL
tr	B5XR49	B5XR49_KLEP3	STAAGRYQL

tr	B1GS82	B1GS82_9CAUD	STAAGRYQV
tr	B3RGM4	B3RGM4_9CAUD	SSAAGRYQV
tr	B2FRB3	B2FRB3_STRMK	SSAAGRYQF
tr	B4SMC4	B4SMC4_STRM5	SSAAGRYQF
tr	B8KZT2	B8KZT2_9GAMM	SSAAGRYQF
tr	Q88G71	Q88G71_PSEPK	SSAAGRYQF
tr	Q0BEL5	Q0BEL5_BURCM	STAAGRYQI
tr	Q6J1Q5	Q6J1Q5_9CAUD	STAAGRYQI
tr	A4LDY2	A4LDY2_BURPS	STAAGRYQI
tr	A4JDH1	A4JDH1_BURVG	STAAGRYQL
tr	Q9MC90	Q9MC90_BPD3	STAAGRYQL
tr	B5S318	B5S318_RALSO	STAAGRYQL
tr	Q8XYQ8	Q8XYQ8_RALSO	STAAGRYQL
tr	B4SNI7	B4SNI7_STRM5	STGAGRYQL
tr	B5PLH9	B5PLH9_SALET	STASGRYQQ
tr	C9XHB2	C9XHB2_SALTD	STASGRYQQ
tr	B5MYZ0	B5MYZ0_SALET	STASGRYQQ
tr	Q6K1I1	Q6K1I1_9CAUD	STASGRYQQ
tr	B5MU90	B5MU90_SALET	STASGRYQQ
tr	O80309	O80309_BP186	STASGRYQQ
tr	C6V0R3	C6V0R3_ECO5T	STASGRYQQ
tr	B7MEC0	B7MEC0_ECO45	STASGRYQQ
tr	B5YUG0	B5YUG0_ECO5E	STASGRYQQ
tr	A1A9F8	A1A9F8_ECOK1	STASGRYQQ
tr	C1NGQ4	C1NGQ4_9ESCH	STASGRYQQ
tr	B3BVK4	B3BVK4_ECO57	STASGRYQQ
tr	B3AVQ9	B3AVQ9_ECO57	STASGRYQQ
tr	B3A901	B3A901_ECO57	STASGRYQQ
tr	Q76ZD6	Q76ZD6_9CAUD	STASGRYQQ
tr	B1EPP6	B1EPP6_9ESCH	STASGRYQQ
tr	B2N3V9	B2N3V9_ECOLX	STASGRYQQ
tr	B2PP35	B2PP35_ECO57	STASGRYQQ
tr	B2PD69	B2PD69_ECO57	STASGRYQQ
tr	B2NUI4	B2NUI4_ECO57	STASGRYQQ
tr	Q7Y4E4	Q7Y4E4_BPP2	STASGRYQQ
tr	B3BLU1	B3BLU1_ECO57	STASGRYQQ
tr	B1LMX9	B1LMX9_ECOSM	STASGRYQQ
tr	A6TE68	A6TE68_KLEP7	STASGRYQQ
tr	C6CF31	C6CF31_DICZE	STAAGRYQQ
tr	D2BWX0	D2BWX0_DICD5	STAAGRYQQ
tr	C6C704	C6C704_DICDC	STAAGRYQQ
tr	B8L8I5	B8L8I5_9GAMM	SNASGRYQF
tr	B8L9S2	B8L9S2_9GAMM	SNASGRYQF
tr	Q46YK5	Q46YK5_RALEJ	SNAAGRYQH
tr	Q6UYK3	Q6UYK3_9CAUD	STASGRYQQ
tr	A4SL92	A4SL92_AERS4	STAAGRYQF
tr	A5X9I5	A5X9I5_9CAUD	STAAGRYQF
tr	B0JGM5	B0JGM5_MICAN	STAAGRYQF
tr	C4U050	C4U050_YERKR	SSAAGAYQV
tr	B4E744	B4E744_BURCJ	SSAAGAYQI
tr	B8HW77	B8HW77_CYAP4	TTAAGRYQF
tr	Q8DK42	Q8DK42_THEEB	TTAAGRYQF
tr	B0CAN4	B0CAN4_ACAM1	TTAAGRYQF
tr	B7KAY2	B7KAY2_CYAP7	TTAAGRYQF
tr	B4B7H5	B4B7H5_9CHRO	STAAGRYQF
tr	B4VYB5	B4VYB5_9CYAN	TTAAGRYQF
tr	Q3M520	Q3M520_ANAVT	STAAGRYQI
tr	Q8YTG5	Q8YTG5_ANASP	STAAGRYQI
tr	A0ZIR9	A0ZIR9_NODSP	STAAGRYQI
tr	B2J3F8	B2J3F8_NOSP7	STAAGRYQI
tr	P74105	P74105_SYNY3	STASGRYQF
tr	B5W3E0	B5W3E0_SPIMA	TTAAGRYQF
tr	Q117E2	Q117E2_TRIEI	STAAGRYQM
tr	B4WPE7	B4WPE7_9SYNE	TTAAGRYQF
tr	A3IRW1	A3IRW1_9CHRO	STAAGRYQF
tr	B1WYC8	B1WYC8_CYAA5	STAAGRYQF
tr	B7JUQ2	B7JUQ2_CYAP8	STAAGRYQF
tr	Q55936	Q55936_SYNY3	STAAGRYQF
tr	A0YIW4	A0YIW4_9CYAN	TTAAGRYQL
tr	A4CXH0	A4CXH0_SYNPV	SAAAGAYQL
tr	A5GJU0	A5GJU0_SYNPW	SAAAGAYQF
tr	A3Z536	A3Z536_9SYNE	SAAAGAYQF
tr	Q05R76	Q05R76_9SYNE	SAAAGAYQF
tr	Q0I904	Q0I904_SYNS3	SAAAGAYQF
tr	Q7V8D3	Q7V8D3_PROMM	SAAAGAYQF
tr	A2CAU6	A2CAU6_PROM3	SAAAGAYQF
tr	Q3AYC4	Q3AYC4_SYNS9	SAAAGAYQF

tr	Q065Z3	Q065Z3_9SYNE	SAAAGAYQF
tr	D0CI57	D0CI57_9SYNE	SAAAGAYQF
tr	Q3AKT8	Q3AKT8_SYNSC	SAAAGAYQF
tr	Q7U664	Q7U664_SYNPX	SAAAGAYQF
tr	Q3AY16	Q3AY16_SYNS9	SAAAGAYQF
tr	Q067I0	Q067I0_9SYNE	SAAAGAYQF
tr	D0CJC1	D0CJC1_9SYNE	SAAAGAYQF
tr	Q3AJM5	Q3AJM5_SYNSC	SAAAGAYQF
tr	Q7U6M5	Q7U6M5_SYNPX	SAAAGAYQF
tr	Q7V7S4	Q7V7S4_PROMM	SAAAGAYQF
tr	A2C9Z4	A2C9Z4_PROM3	SAAAGAYQF
tr	A5GL12	A5GL12_SYNPW	SAAAGAYQF
tr	A4CUP6	A4CUP6_SYNPV	SAAAGAYQF
tr	Q0IA84	Q0IA84_SYNS3	SAAAGAYQF
tr	A3Z6Z0	A3Z6Z0_9SYNE	SAAAGAYQF
tr	Q05T44	Q05T44_9SYNE	SAAAGAYQF
tr	A3Z1Y9	A3Z1Y9_9SYNE	SAAAGAYQF
tr	B5IJ50	B5IJ50_9CHRO	SAAAGAYQF
tr	A5GTW9	A5GTW9_SYNR3	SAAAGAYQF
tr	B5IL03	B5IL03_9CHRO	SAAAGAYQF
tr	A3Z1B0	A3Z1B0_9SYNE	SAAAGAYQM
tr	A5GTZ0	A5GTZ0_SYNR3	SAAAGAYQF
tr	Q8ZS41	Q8ZS41_ANASP	STAAGAYQM
tr	Q3M149	Q3M149_ANAVT	STAAGAYQM
tr	Q10XQ1	Q10XQ1_TRIEI	SDAAGRYQF