Figure S2. Multiple alignment of GH22c motif sequences.

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                                    10
                              ....|....|...
tr|B8YK79|B8YK79_CHICK        DYGILQINSRWWC
tr|B8YK77|B8YK77_GALLA        DYGILQINSRWWC
tr|B8YK75|B8YK75_GALSO        DYGILQINSRWWC
tr|B8YJN9|B8YJN9_CHICK        DSGILQINSRWWC
tr|B8YJP1|B8YJP1_CHICK        DSGILQINSRWWC
tr|B8YJT7|B8YJT7_CHICK        DFGILQINSRWWC
tr|B8YK73|B8YK73_GALVA        HYGILQINSRWWC
tr|B8YK69|B8YK69_BAMTH        HYGILQINSRWWC
tr|B8YK71|B8YK71_FRAPO        YYGIPQINSRWWC
tr|P84496|P84496_ALOAE        DYGILQINSRWWC
tr|Q6GPX0|Q6GPX0_XENLA        DYGILQINSRWWC
tr|B5XA65|B5XA65_SALSA        DYGIFQINSRYWC
tr|Q9DD55|Q9DD55_SALSA        DYGIFQINSRYWC
tr|C1BZN5|C1BZN5_ESOLU        DYGIFQINSRWWC
tr|A7M773|A7M773_9PLEU        DYGIFQINSRWWC
tr|B3VHW3|B3VHW3_PSEMX        DYGIFQINSRWWC
tr|Q4RZF0|Q4RZF0_TETNG        DYGIFQINSRWWC
tr|C1K9I4|C1K9I4_PERFV        DYGIFQINSRWWC
tr|Q2PZ29|Q2PZ29_SOLSE        DYGIFQINSRYWC
tr|B0LVZ3|B0LVZ3_SOLSE        DYGIFQMNSRYWC
tr|B5LV45|B5LV45_OREAU        DFGIFQINSYWWC
tr|B5LV44|B5LV44_OREAU        DFGIFQINNRWWC
tr|B5AE24|B5AE24_OREAU        DFGIFQINSRWWC
tr|C3V6M9|C3V6M9_ORYLA        DYGIFQINSYWWC
tr|A4Z8Q3|A4Z8Q3_SHEEP        DYGIFQINSHWWC
tr|C9EJ83|C9EJ83_SHEEP        DYGIFQINSHWWC
tr|D0ETJ4|D0ETJ4_CAPHI        DYGIFQINSHWWC
tr|A4Z8Q1|A4Z8Q1_BUBBU        DYGIFQINSRWWC
tr|B2R4C5|B2R4C5_HUMAN        DYGIFQINSRYWC
tr|Q0MRP5|Q0MRP5_9CETA        DYGIFQINSRWWC
tr|B8R1K4|B8R1K4_BOSMU        DYGIFQINSRWWC
tr|A9NJ73|A9NJ73_FELCA        DYGIFQINSRYWC
tr|Q6PDV1|Q6PDV1_RAT          DYGIFQINSRYWC
tr|Q29575|Q29575_PIG          DYGIFQINSRYWC
tr|A5HKM9|A5HKM9_BUBBU        DYGIFQINSKWWC
tr|A4Z8Q2|A4Z8Q2_BUBBU        DYGIFQINSKWWC
tr|D2HIV6|D2HIV6_AILME        DYGIFQINSRYWC
tr|B2RYD4|B2RYD4_RAT          DYGIFQINSRYWC
tr|Q8BM26|Q8BM26_MOUSE        SYGIFQINSRFWC
tr|Q8BM27|Q8BM27_MOUSE        SYGIFQINSRFWC
tr|Q9D249|Q9D249_MOUSE        SYGIFQINSRFWC
tr|Q5M8G0|Q5M8G0_XENTR        EYGIFQINSYWWC
tr|Q6DIU1|Q6DIU1_XENTR        EYGIFQINSYWWC
tr|Q90WE9|Q90WE9_RANCA        EYGIFQINSYWWC
tr|C1C526|C1C526_RANCA        DYGIFQINSKWWC
tr|B5KFT9|B5KFT9_TAEGU        DYGIFQINSKYWC
tr|D2H7P7|D2H7P7_AILME        EYGIFQLSSAWWC
tr|D2HWT4|D2HWT4_AILME        DYGIFQLNNKWWC
tr|A8MZ93|A8MZ93_HUMAN        NNGIFQINSRRWC
tr|B6VH81|B6VH81_CEBAP        NNGIFQINSRRWC
tr|B4DYD1|B4DYD1_HUMAN        NNGIFQINSRRWC
tr|D2GU68|D2GU68_AILME        NNGIFQINSRKWC
tr|D2HCM0|D2HCM0_AILME        DYGIFQINSFTWC
tr|Q24JW2|Q24JW2_DANRE        DYGIFQINSFKWC
tr|Q90YS5|Q90YS5_DANRE        DYGIFQINSFKWC
tr|Q9IBG5|Q9IBG5_CYPCA        DYGIFQINSFKWC
tr|B5AC76|B5AC76_CTEID        DYGIFQINSFKWC
tr|A2A9H7|A2A9H7_MOUSE        DYGIFQINSRYWC
tr|Q4R8K7|Q4R8K7_MACFA        DYGLFQINGHYWC
tr|Q78ID0|Q78ID0_MOUSE        GFGLFQIRDNEWC
tr|D2I648|D2I648_AILME        GYGLFQIRSHEWC
tr|Q86Q32|Q86Q32_DERVA        DYGIFQINNGYWC
tr|Q86L96|Q86L96_DERAN        DYGIFQINNGYWC
tr|B7P0W4|B7P0W4_IXOSC        DFGIFQINNGYWC
tr|Q685C9|Q685C9_9SCOR        EYGIFQISSRYWC
tr|Q685C4|Q685C4_9SCOR        EYGIFQISSRYWC
tr|Q685B2|Q685B2_9SCOR        EYGIFQISSRYWC
tr|Q685B3|Q685B3_9SCOR        EYGIFQISSRYWG
tr|Q685B0|Q685B0_9SCOR        EYGIFQISSRYWC
tr|Q685A2|Q685A2_9SCOR        EYGIFQISSRYWC
tr|Q685F2|Q685F2_9SCOR        EYGIFQISSRYWC
tr|Q685F3|Q685F3_9SCOR        EYGIFQISSRYWC
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tr|Q685C8|Q685C8_9SCOR   EYGIFQISSRYWC
tr|Q685E0|Q685E0_9SCOR   EYGIFQISSRYWC
tr|Q685F9|Q685F9_9SCOR   EYGIFQISSRYWC
tr|Q685F6|Q685F6_9SCOR   EYGIFQISSRYWC
tr|Q685E5|Q685E5_9SCOR   EYGIFQISSRYWC
tr|Q685D9|Q685D9_9SCOR   EYGIFQISSRYWC
tr|Q685E1|Q685E1_9SCOR   EYGIFQISSRYWC
tr|Q685B1|Q685B1_9SCOR   EYGISQISSRYWG
tr|Q685A1|Q685A1_9SCOR   EYGISQISSRYRC
tr|Q685G3|Q685G3_BUTEU   EYGIFQISSRYWC
tr|Q685A9|Q685A9_9SCOR   EYGIFQISSRYWC
tr|Q685A7|Q685A7_9SCOR   EYGIFQISSRYWC
tr|Q685C1|Q685C1_9SCOR   EYGIFQISSRYWC
tr|Q685E2|Q685E2_9SCOR   EYGIFQINNRYWC
tr|Q685E7|Q685E7_9SCOR   EYGIFQTSTRYWW
tr|Q685E4|Q685E4_9SCOR   EYGRFQISNRYWC
tr|Q685F1|Q685F1_9SCOR   EYGIFQISSRYWC
tr|Q685F0|Q685F0_9SCOR   EYGIFQISSRYWW
tr|Q685C2|Q685C2_9SCOR   EYGIFQISSRYWC
tr|Q685G2|Q685G2_9SCOR   EYGIFQISSRYWC
tr|Q685A4|Q685A4_9SCOR   KYGIFQISSRYWC
tr|Q6IUF5|Q6IUF5_BRABE   DHGLFQINDYYWC
tr|Q86QP2|Q86QP2_BRABE   DHELFQINDYYWC
tr|C3ZXI8|C3ZXI8_BRAFL   DHGLFQINDHYWC
tr|C3ZFG3|C3ZFG3_BRAFL   DYGLFQINGYYWC
tr|Q86M91|Q86M91_ANOST   DYGIFQINNKFWC
tr|B2MV88|B2MV88_9DIPT   DYGIFQINNKYWC
tr|O02418|O02418_ANODA   DYGLFQINNKYWC
tr|Q6GU92|Q6GU92_ANOGA   DYGIFQINNAYWC
tr|B6DDP3|B6DDP3_ANODA   DYGLFQINNRYWC
tr|B6DDP4|B6DDP4_ANODA   DYGLFQINNRYWC
tr|Q7QJ81|Q7QJ81_ANOGA   DYGIFQINNYYWC
tr|Q6GU91|Q6GU91_ANOGA   DYGIFQINNYYWC
tr|A0NBE9|A0NBE9_ANOGA   YYGLFQLQSAYHC
tr|Q4ZJA6|Q4ZJA6_ANOGA   YYGLFQLQSAYHC
tr|A9LN32|A9LN32_RHOPR   DYGLFQINDHIWC
tr|Q26363|Q26363_MANSE   DYGLFQINDKYWC
tr|Q9TWY1|Q9TWY1_MANSE   DYGLFQINDKYWC
tr|Q8I808|Q8I808_AGRCO   DYGLFQINDKYWC
tr|Q2L7D2|Q2L7D2_ANTPE   DYGLFQINDKYWC
tr|Q6QEJ9|Q6QEJ9_9NEOP   DYGLFQINDKYWC
tr|Q9GNL4|Q9GNL4_SAMCR   DYGLFQINDKYWC
tr|B8YI23|B8YI23_HELZE   DYGLYQINDKYWC
tr|Q19R28|Q19R28_HELAM   DYGLYQINDKYWC
tr|O96862|O96862_HELVI   DYGLYQINDKYWC
tr|B6DZS0|B6DZS0_SPOLT   DYGLFQINDKYWC
tr|Q86FK1|Q86FK1_SPOEX   DYGLFQINDKYWC
tr|Q6QMF0|Q6QMF0_PSEIC   DYGLFQINDKYWC
tr|Q68KS6|Q68KS6_9NEOP   DYGLFQINDKYWC
tr|A9P5Q4|A9P5Q4_9NEOP   DYGLFQINDKYWC
tr|A9XXB6|A9XXB6_TRINI   DYGLFQINDNIWC
tr|B0WEH8|B0WEH8_CULQU   DWGLFQINDRYWC
tr|B0WEH9|B0WEH9_CULQU   DWGLFQINDRYWC
tr|B8RJ76|B8RJ76_CULTA   DWGLFQINDRYWC
tr|Q8T3T7|Q8T3T7_AEDAL   DWGLFQINDRYWC
tr|Q9GRF3|Q9GRF3_AEDAE   DWGLFQINDRYWC
tr|Q672J4|Q672J4_AEDAE   DWGLFQINDRYWC
tr|Q16V63|Q16V63_AEDAE   DYGLFQINNKYWC
tr|Q8T9V5|Q8T9V5_AEDAE   DYGLFQINNKYWC
tr|Q5MIY9|Q5MIY9_AEDAL   DYGLFQINNKYWC
tr|A0FIV6|A0FIV6_9DIPT   DYGLFQINNRYWC
tr|D1FPY3|D1FPY3_9DIPT   DYGLFQINSKYWC
tr|D1FPX6|D1FPX6_9DIPT   DYGLFQINSKYWC
tr|B5M0V6|B5M0V6_SIMVI   DYGLFQINSKYWC
tr|Q16TW8|Q16TW8_AEDAE   SYGIFQINSKQWC
tr|Q1DGZ3|Q1DGZ3_AEDAE   SYGIFQINSKQWC
tr|B0WUD1|B0WUD1_CULQU   SYGIFQINSKEWC
tr|Q7PT23|Q7PT23_ANOGA   NYGIFQINSKEWC
tr|Q7QJA6|Q7QJA6_ANOGA   NYGIFQINSKTWC
tr|B0WUD2|B0WUD2_CULQU   SYGIFQINSKEWC
tr|A1BW46|A1BW46_DROPS   SYGLFQINSKNWC
tr|A1BW47|A1BW47_DROMI   SYGLFQINSKNWC
tr|A1BW65|A1BW65_DROMI   SYGLFQINSKNWC
tr|A1BW45|A1BW45_DROAI   SYGLFQINSKNWC
tr|Q2PQQ7|Q2PQQ7_GLOMM   SYGLFQINSKNWC
tr|A5A143|A5A143_BOMMO   SYGLFQINNKDWC
tr|A5A142|A5A142_ANTMY   YYGLFQIGS-EWC
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tr|D1KRL0|D1KRL0_MANSE   YYGLFQIGS-EWC
tr|B4GWI7|B4GWI7_DROPE   SLGLFQINSR-YC
tr|Q29I82|Q29I82_DROPS   SLGLFQINSR-YC
tr|Q9W4C2|Q9W4C2_DROME   NYGLFQINGR-FC
tr|B4I0P3|B4I0P3_DROSE   NYGLFQINGR-FC
tr|B3NV44|B3NV44_DROER   SYGLFQINGR-FC
tr|B4PZQ1|B4PZQ1_DROYA   NYGLFQINGR-FC
tr|B4L4L9|B4L4L9_DROMO   NYGLFQINER-YC
tr|B4M2J4|B4M2J4_DROVI   SYGLFQINGR-YC
tr|B4JN62|B4JN62_DROGR   NYGLFQINTR-FC
tr|B4MUJ9|B4MUJ9_DROWI   NYGLFQINGR-YC
tr|A1BWC8|A1BWC8_DROMI   NYGLFQINSKDYC
tr|A1BWC3|A1BWC3_DROMI   NYGLFQINSKDYC
tr|A1BWC2|A1BWC2_DROPS   NYGLFQINSKDYC
tr|B5E170|B5E170_DROPS   NYGLFQINSKDYC
tr|B4GGZ3|B4GGZ3_DROPE   NYGLFQINSKDYC
tr|B3MIT6|B3MIT6_DROAN   NYGLFQINSKNYC
tr|C5WLP0|C5WLP0_DROME   NYGLFQINSKDYC
tr|C0HBU0|C0HBU0_DROME   NYGLFQINSKDYC
tr|A1ZBX6|A1ZBX6_DROME   NYGLFQINSKDYC
tr|B4HQN0|B4HQN0_DROSE   NYGLFQINSKDYC
tr|B4QF38|B4QF38_DROSI   NYGLFQINSKDYC
tr|B3NJW6|B3NJW6_DROER   NYGLFQINNRDYC
tr|B4PA33|B4PA33_DROYA   NYGLFQINSKDYC
tr|B4MPJ4|B4MPJ4_DROWI   NYGLFQINSKDYC
tr|B4ME97|B4ME97_DROVI   NYGLFQINSRDYC
tr|A0SLC3|A0SLC3_MAYDE   SYGLFQINSKDYC
tr|Q95V66|Q95V66_LITVA   DYGIFQINNKYWC
tr|C0IXV4|C0IXV4_LITST   DYGIFQINNKYWC
tr|Q8IT75|Q8IT75_PENMO   DYGIFQINNKYWC
tr|Q86D81|Q86D81_MACRS   DYGIFQINNKHWC
tr|Q86D80|Q86D80_MACNP   DYGIFQINNKYWC
tr|A7XUF7|A7XUF7_PENMO   DYGIFQINNKYWC
tr|Q4KY21|Q4KY21_FENCH   DYGIFQINNKYWC
tr|C1IIX1|C1IIX1_FENME   DYGIFQINNKYWC
tr|C8CK83|C8CK83_FENIN   DYGIFQINNKYWC
tr|Q8I7X3|Q8I7X3_PENSE   DYGIFQINNKYWC
tr|Q86SC1|Q86SC1_PENJP   DYGIFQINNKYWC
tr|Q8WSQ8|Q8WSQ8_PENJP   DYGIFQINNKYWC
tr|B9VQ21|B9VQ21_9EUCA   DYGLFQLNNKYWC
tr|Q177Z3|Q177Z3_AEDAE   YHGMFQLSDEYWC
tr|B0W3Z5|B0W3Z5_CULQU   YHGMFQLSDEYWC
tr|Q7Q6R2|Q7Q6R2_ANOGA   YHGMFQLSDEYWC
tr|C8C411|C8C411_TRICA   DHGLFQISQIYWC
tr|C8C412|C8C412_TRICA   DHGLFQISQIYWC
tr|B6RQP3|B6RQP3_SITZE   DYGILQISEKFWC
tr|Q9VSA5|Q9VSA5_DROME   DHGLFQISDLYWC
tr|B4QKX1|B4QKX1_DROSI   DHGLFQISDLFWC
tr|B4HIV3|B4HIV3_DROSE   DHGLFQISDLYWC
tr|B4PCB0|B4PCB0_DROYA   DHGLFQISDLYWC
tr|B3M961|B3M961_DROAN   DHGLFQISDLFWC
tr|B4H299|B4H299_DROPE   DHGLFQISDLYWC
tr|B5DR06|B5DR06_DROPS   DHGLFQISDLYWC
tr|B4KWW1|B4KWW1_DROMO   DHGLFQISDLYWC
tr|B4LH11|B4LH11_DROVI   DHGLFQISDLYWC
tr|B4IWP9|B4IWP9_DROGR   DHGLFQISDLYWC
tr|B4MY10|B4MY10_DROWI   DHGLFQISDLYWC
tr|D2KMR3|D2KMR3_BOMMO   TRPTTAITAKYWT
tr|A5H9H9|A5H9H9_9NEOP   DYGLFQINDRYWC
tr|Q8IAD0|Q8IAD0_9NEOP   DYGLFQINDRYWC
tr|Q8IAD1|Q8IAD1_9NEOP   DYGLFQINDRYWC
tr|A5H9H7|A5H9H7_9NEOP   DYGLFQINDRYWC
tr|B4J5J4|B4J5J4_DROGR   DWGLFQINDRYWC
tr|B4LKY2|B4LKY2_DROVI   DWGLFQINDRYWC
tr|B4KPK0|B4KPK0_DROMO   DWGLFQINDRYWC
tr|B3NPV1|B3NPV1_DROER   DWGLFQINDRYWC
tr|B4P6B7|B4P6B7_DROYA   DWGLFQINDRYWC
tr|B4QHH6|B4QHH6_DROSI   DWGLFQINDRYWC
tr|A1ZAB8|A1ZAB8_DROME   DWGLFQINDRYWC
tr|B4HST5|B4HST5_DROSE   DWGLFQINDRYWC
tr|B3MH65|B3MH65_DROAN   DWGLFQINDRYWC
tr|Q28Z62|Q28Z62_DROPS   DWGLFQINDRYWC
tr|B4GI84|B4GI84_DROPE   DWGLFQINDRYWC
tr|B4L917|B4L917_DROMO   DYGIFQINDRYWC
tr|B4L918|B4L918_DROMO   DYGIFQINDRYWC
tr|B4LCC7|B4LCC7_DROVI   DYGIFQINDRYWC
tr|A4V9X3|A4V9X3_DROSI   DYGIFQINDLYWC
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tr|A4V9X4|A4V9X4_DROSI    DYGIFQINDLYWC
tr|A4V9X6|A4V9X6_DROSI    DYGIFQINDLYWC
tr|A4V9X5|A4V9X5_DROSI    DYGIFQINDLYWC
tr|B4QLX5|B4QLX5_DROSI    DYGVFQINDLYWC
tr|B3NJF2|B3NJF2_DROER    DYGIFQINDLYWC
tr|B4PCR4|B4PCR4_DROYA    DYGIFQINDLYWC
tr|B4LCC9|B4LCC9_DROVI    DYGIFQINNYYWC
tr|B4LCC8|B4LCC8_DROVI    DYGIFQINDYYWC
tr|B4L916|B4L916_DROMO    DYGIFQINNYYWC
tr|B4L913|B4L913_DROMO    DYGIFQINNYYWC
tr|B4LCC5|B4LCC5_DROVI    DYGIFQINNYYWC
tr|B5DR84|B5DR84_DROPS    DYGIFQINDYYWC
tr|B4H5I6|B4H5I6_DROPE    DYGIFQINDYYWC
tr|B5DR88|B5DR88_DROPS    DYGIFQINDYYWC
tr|B5DR91|B5DR91_DROPS    DYGIFQINDYYWC
tr|B4H5I8|B4H5I8_DROPE    DYGIFQINDYYWC
tr|B4PD47|B4PD47_DROYA    DYGIFQINDYYWC
tr|B4PD44|B4PD44_DROYA    DYGIFQINDYYWC
tr|B4HVP1|B4HVP1_DROSE    DYGIFQINDYYWC
tr|B3NJF7|B3NJF7_DROER    DYGIFQINDYYWC
tr|B4QLX9|B4QLX9_DROSI    DYGIFQINDYYWC
tr|B4HVP0|B4HVP0_DROSE    DYGIFQINDYYWC
tr|B4PD45|B4PD45_DROYA    DYGIFQINDYYWC
tr|B4MXX7|B4MXX7_DROWI    DYGIFQINDYYWC
tr|B5DR89|B5DR89_DROPS    DYGIFQINDYYWC
tr|B4H5I7|B4H5I7_DROPE    DYGIFQINDYYWC
tr|B5DR85|B5DR85_DROPS    DYGIFQINDYYWC
tr|B5DR87|B5DR87_DROPS    DYGIFQINDYYWC
tr|B4H5I9|B4H5I9_DROPE    DYGIFQINDYYWC
tr|B4LCD1|B4LCD1_DROVI    DYGIFQINDLYWC
tr|B4PD49|B4PD49_DROYA    DYGIFQINDLYWC
tr|Q6XHI6|Q6XHI6_DROYA    DYGIFQINDLYWC
tr|B4NSY7|B4NSY7_DROSI    DYGIFQINDLYWC
tr|B3DMZ0|B3DMZ0_DROME    DYGIFQINDLYWC
tr|Q29EU6|Q29EU6_DROPS    DYGIFQINDLYWC
tr|B4MXY1|B4MXY1_DROWI    DYGIFQINDLYWC
tr|B3M543|B3M543_DROAN    DYGIFQINDLYWC
tr|B3M549|B3M549_DROAN    DYGIFQINNYYWC
tr|B3M548|B3M548_DROAN    DYGIFQINNYYWC
tr|B3M545|B3M545_DROAN    DYGIFQINNYYWC
tr|B5DR81|B5DR81_DROPS    DYGIFQINNYYWC
tr|B3NJG0|B3NJG0_DROER    DYGIFQINNKYWC
tr|B4PD48|B4PD48_DROYA    DYGIFQINNKYWC
tr|B3M544|B3M544_DROAN    DYGIFQINNKYWC
tr|B4H5J1|B4H5J1_DROPE    DYGIFQINDYYWC
tr|B5DR82|B5DR82_DROPS    AYGIFQINDYYWC
tr|B3M554|B3M554_DROAN    DYGLFQINDRYWC
tr|B3GQR5|B3GQR5_MUSDO    DYGIFQINNYYWC
tr|Q7YT17|Q7YT17_MUSDO    DYGIFQINNYYWC
tr|B4J6D4|B4J6D4_DROGR    DHGIFQINDRIWC
tr|B5DR83|B5DR83_DROPS    NYGIFQISNEYWC
tr|B4JLE8|B4JLE8_DROGR    NYGIFQIGN-HWC
tr|B4J6D3|B4J6D3_DROGR    NYGIFQISDGWWC
tr|A1Z9D5|A1Z9D5_DROME    DYGLFQISDRYWC
tr|Q2TPW4|Q2TPW4_TRIBS    DNGLFQINDRYWC
tr|Q7YZS5|Q7YZS5_TRIIF    DNGLFQINDRFWC
tr|A9LN31|A9LN31_RHOPR    DNGLFQINDRIWC
tr|A9X7P1|A9X7P1_TRIIF    YYGLFQISDRYWC
tr|B7PQG4|B7PQG4_IXOSC    DHGIFQINDKHWC
tr|D2HWT5|D2HWT5_AILME    EYGLFQINNKFWC
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