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Tetrahymena_thermophila-CENH-gi|73913041|gb|AA291458.1|/1-187 1 MARKAYQPKRRSNSNQNRQSDSLKKNKQDNLRKSKAGNQQGNKKNKDIQDQRNKASTK 60
Arabidopsis-CENH-gi|148356913|dbj|BAF63140.1|/1-176 1 MARTKHVFTKSRRTGNRTD-ANASSSSQASDPTTPTTRGTEGGDNTQQTN---PTTSPATG 56
Arabidopsis-CENH-gi|148356915|dbj|BAF63141.1|/1-178 1 MARTKHRVTRSQPRNQTDAAAGASSSQAAGPTTPTTRRGGEGGDNTQQTN---PTTSPATG 57
Saccharomyces_cerevisiae-Cse4p-gi|584475573|gb|EWH17328.1|/1-229 1 MSSKQQWSSA|QSDSSGRSLSNVNRLAGDQQSI NDRALSLLQRTRATKNLFP RREERRR 60
Homo_sapiens-gi-CENPA-[602414|gb|AAA57416.1|/1-140 1 MGPRRRSRKPEAPRRRS-----PSPPTPTG 25
Homo_sapiens-histone_H3.1-gi|4504285/1-136 1 MARTKQTKARKSTGGKA-----PRKQLATK 24
Homo_sapiens-histone_H3.3-gi|4885385/1-136 1 MARTKQTKARKSTGGKA-----PRKQLATK 24

Tetrahymena_thermophila-CENH-gi|73913041|gb|AA291458.1|/1-187 61 -----KRESSGKEYES 72
Arabidopsis-CENH-gi|148356913|dbj|BAF63140.1|/1-176 57 -----GRR-PRRARQAM 67
Arabidopsis-CENH-gi|148356915|dbj|BAF63141.1|/1-178 58 -----TRRGAKRSRQAM 69
Saccharomyces_cerevisiae-Cse4p-gi|584475573|gb|EWH17328.1|/1-229 61 YESSKSDLDIETDYEDQAGNLEIETENEEEAEMETEVPAPVRTHSYALDRYVRQKRREKQ 120
Homo_sapiens-gi-CENPA-[602414|gb|AAA57416.1|/1-140 26 -----PSRRGP 31
Homo_sapiens-histone_H3.1-gi|4504285/1-136 25 -----AAR-----KSAP 31
Homo_sapiens-histone_H3.3-gi|4885385/1-136 25 -----AAR-----KSAP 31

Tetrahymena_thermophila-CENH-gi|73913041|gb|AA291458.1|/1-187 73 ARDKVIR--RFRPGDNALKQLRQYNQTPSLLIRKLPFQRLIREISTRM-TEEDSLRWT S 128
Arabidopsis-CENH-gi|148356913|dbj|BAF63140.1|/1-176 68 PRGSQKKPY-RYRPGTVLREIRHFQKQTNLLIPAASFIRQVRSITHALAPPQIN-RWTA 125
Arabidopsis-CENH-gi|148356915|dbj|BAF63141.1|/1-178 70 PRGSQKKSRYRPGTVLKEIRHFQKQTNLLIPAASFIREVRSITHMLAPPQIN-RWTA 127
Saccharomyces_cerevisiae-Cse4p-gi|584475573|gb|EWH17328.1|/1-229 121 RKQSLKRVEKKYTPSELALYEIRKYQRSTDLLISKIPFARLVKEVTDFTTKDQDLRWQS 180
Homo_sapiens-gi-CENPA-[602414|gb|AAA57416.1|/1-140 32 SLGASSHQHSRRRQG--WLKEIRKLQKSTHLLIRKLPFSRLAREICVKF-TRGVDFNWQA 88
Homo_sapiens-histone_H3.1-gi|4504285/1-136 32 ATGGVKKPH-RYRPGTVLREIRRYQKSTELLIRKLPFQRLVREIAQDF---KTDLRFQS 87
Homo_sapiens-histone_H3.3-gi|4885385/1-136 32 STGGVKKPH-RYRPGTVLREIRRYQKSTELLIRKLPFQRLVREIAQDF---KTDLRFQS 87

Tetrahymena_thermophila-CENH-gi|73913041|gb|AA291458.1|/1-187 129 FALVLLQTVVEDYVMVSFFEDANACALHAKRVTLMSKDLA LAARIRGQKNVTGIFIPTKK 187
Arabidopsis-CENH-gi|148356913|dbj|BAF63140.1|/1-176 126 EALVALQEAAEDYLVGLFSDSMLCAIHARRVTLMRKDFELARRLGGKGRPW----- 176
Arabidopsis-CENH-gi|148356915|dbj|BAF63141.1|/1-178 128 EALVALQEAAEDYLVGLFSDSMLCAIHARRVTLMRKDFELARRLGGKGRPW----- 178
Saccharomyces_cerevisiae-Cse4p-gi|584475573|gb|EWH17328.1|/1-229 181 MAIMALQEASEAYLVGLLEHTNLLALHAKRITIMKDMQLARRIRGQFI----- 229
Homo_sapiens-gi-CENPA-[602414|gb|AAA57416.1|/1-140 89 QALLALQEAAEFLVHLFEDAYLLTLHAGRVTLFPKDVQLARRIRGLEEGLG----- 140
Homo_sapiens-histone_H3.1-gi|4504285/1-136 88 SAVMALQEACEAYLVGLFEDTNLCAIHAKRVTIMPKDIQLARRIRGERA----- 136
Homo_sapiens-histone_H3.3-gi|4885385/1-136 88 AAIGALQEASEAYLVGLFEDTNLCAIHAKRVTIMPKDIQLARRIRGERA----- 136

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Figure S10: Multiple sequences alignments of core histones H3 sequences and centromeric H3 variants in several eukaryotes.. Sequences were aligned using MUSCLE (Edgar 2004) (version 3.8.31) and visualized using JalView (Waterhouse et al. 2009) (version 2.8.2).