

Additional file 7. The amino acid sequences of α CENH3 assembled for this study.

>S.angustifolia

MARTKHQVSKTQPKPRKRLQYELSPRRGRSQQQDGAGTSSQAGGAPAQQRQRQRKQLR
RFRPGTVALREIRKYQKSTDLLIPFAPFVRLVKEISDFYTRGLVSRWTPEALLALQEAAEYHV
VDLFEQANLCAIHAKRVTIMQKDIQLARRIGGRRSW

>P.virgatum_K

MARTKHPAVRKSKEQPKKKLQFGRSPHGRATPTGGASTSATPASAAGTGERAAAGGTAGP
QQQKVKKPHRWKPGTVALREIRKFQKSTEMLIPFAPFARLVREITEFYSRGNVTRWTPEAIL
AIQEAAEFHLIELFEVANLCAIHAKRVTIMQRDIQLARRIGGRRW

>P.virgatum_N

MARTKHA AVRKSKEQPKKKLQFGRSPNRRATPTGGASTSATPARAAGTGERAAAGGTAGR
QQQRVKKPHRWPGTVALREIRKYQKSTELLIPFAPFARLVREITDFYSRGNVTRWTPEALL
AIQEAAEFHLIDLFEVANLCAIHAKRVTIMQKDMQLARRIGGRHW

>Z.mays

MARTKHQAVRKTAEKPKKKKLQFERSGGASTSATPERAAGTGGRAASGGDSVKKTKPRHR
WRPGTVALREIRKYQKSTEPLIPFAPFVRVRELTNFTNGKVERYTAEALLALQEAAEFHLI
ELFEMANLCAIHAKRVTIMQKDIQLARRIGGRRWA

>O.sativa MARTKHPAVRKS KAEPKKKLQFERSPRPSKAQRAGGGTGT SATTRSAAGTSASGT
PRQQTQKQKPHRFRPGTVALREIRKFQKTTELLIPFAPFSRLVREITDFYSKDVSRTLEALL
ALQEAAEYHLVDIFEVSNLCAIHAKRVTIMQKDMQLARRIGGRRPW

>R.distichophylla

MARTKHPAARKAKPQPKKKKLQFERSPARRAAPPSQPGEASASATPTRDRRASTGGAPGQQQ
KQRKKRRYRPGTVALKEIRKFQKSTELLIPFAPFIRLVREITSFMSLEVTRWTPQALIALQEAA
EYHLVDLFEVANLCSIHAKRVTIMQKDIQLARRIGGRRPW

>N.stricta

MARTKHPAARKVKAQPKKQLQFERSPGRTGSASAAATPGGGSASATPQTGGRRPAAPRAK
GTPKKQDEQKKHRWRPGTVALREIRKYQKSTELLFPLAPFARLVREITHYNSKTVDRTAG
ALATIQEAAEYHIIDLFEVANLCAIHAKRVTIMQKDMQLARRIGGRRHWG

>M.nutans

MARTKHVAVRKS KHQPKKKKLQFEGSPRQRQQQKQSGGASASATPMRGARSPAVGAAQAG
TPGQQQHLKKKPYRWAGTVALREIRKYQKTTEMLIPFAPFVRLVREICNFISKKEVSRWTP
QALIALQEAAEYHLVDLFERTNLCAIHAKRVTIMQKDMQLARRIGGRRPW

>S.sibirica

MARTKHPAVRKS KPLPKKQLQFERSPRGRAAAAAQQQEQQSDGMQRRGARRQAGAAA
QGTSGQRKQKKAHRFRPGTLALREIRKFQKTTQLLIPFAPFVRLVRELTSNITIEVNRWNPEA
LIALQEAAEYHLVDLFEVANLCAIHAKRVTIMQKDIQLARRIGGQRLW

>S.breviflora

MARSKHPAVRKLKPQAKKQLQFERSPRSAQQQQQHSGGASPSATPRRGARSPAGAAAQG
ASGQQKHKKAHRFRQGTVALREIRKYQKTTEMLIPFAPFVRLVRELTTNVTIEVSRWEPQAL
VALQEAAEYHLVDVFERANLCAIHAKRVTIMQKDIQLARRIGGQRLW

>L.perenne

MARTKHPAARN SRPQPKKQLQFGRSPGLGPQQETGGTSTSEAPRRGRRRAAAATTQAVAPV
QQRVKKPHRFKPGTVALQQIRKYQKSTELLIPFAPFVRLVKEVTNFCSTKVYRWTPQALAA
LQEAAEYMLVDLFEVANLCSIHAKRVTLMQKDIHLARRIGGPRW

>D.glomerata

MARTKHTAERSTRPLPKKQLQFARETGGPSTSAAPRRGARRPAATAAQGAPAQKPRKTHR
FKPGTVALREIRKYQKSTELLIPFAPFVRLVRELTRNASIEVDRWTPQALIAIQQAAYHLVD
LFGKANLCAIHAKRVTIMQKDIQLARRIGGLR

>A.sativa

MARTKHPAVRNSRPPPKKKLRFAARTAEQETGGASTSAAPRRGARRPTATPAPGAPEQQRTR
KPHRFKPGTVALREIRKYQKSTELLIPFAPFVRLVKEVTDWASPKVTRWTPQALVGLQEAAE
YMLVDLFERANLCAIHAKRVTLMQKDIHLARRIGGPRW

>B.distachyon

MARTKRPAIRKSKPQPKKQLQFERTGGASTSASATPGRRGGRTPARAAGQAAPAQKPKKP
HRFRAGTVALREIRKYQKSELLIPFAPFVRLIKEISNFYSPEISRWTPQALVALQEAAEYHLV
NIFEKANYCAIHAKRVTMMQKDIQLARRISGHRGY

>B.sylvaticum

MARTKRPAIRKSKPQPKKQLQFERAGGASTSASATPGRRGGRTPARAAGQGAPAQKPKKP
HRFRAGTVALREIRKYQKSSELLIPFAPMVRLIKEISNFYSPEISRWTPQALVALQEAAEYHLV
NIFEKANYCAIHAKRVTMMQKDIQLARRISGHRGY

>B.stacei

MARTKRPAIRKSKPVPPKKQLQFERAGGASTSASATPGRRGGRTPARAAGQGTPAQKPKKP
HRFRPGTVALREIRKYQKSSELLIPLAPFVRLIKEISNFYSPEISRWTPQALLALQEAAEYHLV
NIFEKANYCAIHAKRVTMMQKDIQLARRISGHRGY

>H.brevisubulatum

MARTKHPAVRKSXVPPKKKIGSARSPGSAQRRQETDGAGTSATPRRAGRGAAGAPGQP
KQRKPHRFRPGTVALREIRKYQKSVEFLIPFAPFVRLVKEFSELYCPGITRWTPQALVAVQEA
AEYHLVDVFERANHCAIHAKRVTVMQKDIQLARRIGGRRLW

>H.vulgare

MARTKHPAVRKSXAPPKKKIGSASSPSAAQRRQETDGAGTSETPRRAGQGAPAAAEGAPG
EPTKRKPHRFRPGTVALREIRKYQKSVNFLIPFAPFVRLVREITEYYCPRVKRWTPQALLAVQ
EATEYHLVDIFERAHLCAIHAKRVTVMQKDIQLARRIGGSKLW

>H.spontaneumMARTKHPAVRKSXAPPKKKIGSASSPSAAQRRQETDGAGTSETPRRAGRGP
APAAAEGAPGEPTKRKPHRFRPGTVALREIRKYQKSVNFLIPFAPFVRLVREITEYYCPRVKR
WTPQALLAVQEATEYHLVDIFERAHLCAIHAKRVTVMQKDIQLARRIGGSKLW

>S.cerealeMARTKHPAVRKTKVPPKKKLGRPSGGTQRRQDTDGAGTSATPRRAGRAAAPG
AAEGATGQPKQRKPHRFRPGTVALREIRKYQKSVEFLIPFAPFVRLIKEVTDFFCPEISRWTP
QALVAIQEAAEYHLVDVFERANHCAIHAKRVTVMQKDIQLARRIGGRRLW

>T.urartu

MARTKHPAVRKTKAPPKKQLGPRPAQRRQETDGAGTSATPRRAGRAAAPGGAQGATGQPK
QRKPHRFRPGTVALREIRRYQKSVDFLIPFAPFVRLIKEVTDFFCPEISRWTPQALVAIQEAAE
YHLVDVFERANHCAIHAKRVTVMQKDIQLARRIGGRRLW

>A.speltoides

MARTKHPAVRKTKAPPKKQLGPRPAQRRQETDGAGTSATPVRAGRAAAPGAAEGATGQPK
QRKPHRFRPGTVALREIRKYQKSVDFLIPFAPFVRLIKEVTDFFCPEISRWTPQALVAIQEAAE
YHLVDVFERANHCAIHAKRVTVMQKDIQLARRIGGRRLW

>A.tauschii

MARTKHPAVRKTKAPPKKQLGPRPAQRRQETDGAGTSATPRRAGRAAAPGGAEGATGQPK
QRKPHRFRPGTVALREIRRYQKSVDFLIPFAPFVRLIKEVTDFFCPEISRWTPQALVAIQEAAE
YHLVDVFERANHCAIHAKRVTVMQKDIQLARRIGGRRLW

>T.aestivum_A

MARTKHPAVRKT KAPPKKQLGPRPAQRRQETDGAGTSATPRRAGRAAAPGGAQGATGQPK
QRKPHRFRPGTV ALREIRRYQKSVD FLIPFAPFVRLIKEVTDFFCPEISRWTPQALVAIQEAAE
YHLVDVFERANHCAI HAKRVTVMQKDIQLARRIGGRRLW

>T.aestivum_B

MARTKHPAVRKT KALPKKQLGTRPSAGTPRRQETDGAGTSATPRRAGRAAAPGAAEGATG
QPKQRKPHRFRPGTV ALREIRKYQKSVD FLIPFAPFVRLIKEVTDFFCPEISRWTPQALVAIQE
AAEYHLVDVFERANHCAI HAKRVTVMQKDIQLARRIGGRRLW

>T.aestivum_D

MARTKHPAVRKT KAPPKKQLGPRPAQRRQETDGAGTSATPRRAGRAAAPGGAEGATGQPK
QRKPHRFRPGTV ALREIRRYQKSVD FLIPFAPFVRLIKEVTDFFCPEISRWTPQALVAIQEAAE
YHLVDVFERANHCAI HAKRVTVMQKDIQLARRIGGRRLW