

(A)

CgNdc10p 1 -----MISKDNEIRKLMESVAPIKVHQYKSYMKYIEWCEQKE
ScNdc10p 1 MRSSILFLLKLMKIMDVQQQQEAMSSSEDRFQELVDSLKPRTAHQYKTYTKYIQWCQLNQ

CgNdc10p 39 LLSFESNS---SIPYENVPLLPQLVHFLFLECVIKWPIVAS-----DVN
ScNdc10p 61 LIPTPEDNSVNSVPYKDLPIISAELIHWFLDLITDDKPGCEKREETEDLDEEEENSFKIA

CgNdc10p 80 ELQIYIESFRFLKLCDIHSEVDPNSEFDDYITDVLELHRRWDSLLKDESQSSQLN----
ScNdc10p 121 TLKKIIGSLNFLSKLCKVHENPNAN-IDTKYLESVTKLHTHWIDSQKAITTNETNNTNTQ

CgNdc10p 136 ---KMATLSINMWSNTEQLSDKYFKTSMKLRFLTDYHFYTLNWPYKERSKLLKLSHL
ScNdc10p 180 VLCPPLLKVSINLWNPETNHLSEKFFKTCEKLRFLVDFQLRSYLNLSFEERSKIRFGSL

CgNdc10p 192 KVHNVENDENSLNAYRLIIINDG---AVQGTVIPHDCPLICPIITTLAAYLYLRFYGVKP
ScNdc10p 240 KLGKRDRDAIIYHKVTHSAEKKDTPGHHQLLALLPQDCPFICPQITTLAAYLYLRFYGIPS

CgNdc10p 249 IYRGDGFPELTKD-----FDLPLIRGKSLKDYPREETLGNYYSSAFKYCSLEYKRRVYL
ScNdc10p 300 VSKGDGFPNLNADENGSLQDIPILRGKSLTTYPREETFSNYYTTVFRYCHLPYKRREYF

CgNdc10p 303 HGSSDEKNGVKNIRYPDTSNPAYKEFLTDPYNN--EEMKFDRLFPAHIFLDYERIFNYSN
ScNdc10p 360 N-----KCNLYVPTWDEDTFRTFFNEENHGNWLEQPEAFAPDKIPDFDKKIMNFKS

CgNdc10p 361 YDGVQDGLTIPEITELPPNDLLVQVFPEIEKYKRESYNILTTKSKEFLKVLVLRNVLVI
ScNdc10p 412 PYTSYS-TNAKKDFPFPKDLLVQIFPEIDYKRHDYEGLSQNSRDFLDLMEVLRERFLS

CgNdc10p 421 NLPWIYRYFPDHEIFSDQTSIFQNSDFVSYFNERIALISNNDSTIDINSIPPLRNIPGY
ScNdc10p 471 NLPWIYKFFPNHDFQDP--IFGNSDFQSYFNDKTIHSK-----GSPILSFDILPGF

CgNdc10p 481 HTGLIENNIMLQYLVEPNFKAGVKSIDSIPSVHDSIYNIPTVTGNEGQSSVALAPPITNNS
ScNdc10p 521 NKIYKNKTNFYSLLEIRPSQLTFASSHNPDTHTQK-----QSEGLPQMSQLDTTQLNE

CgNdc10p 541 GWKKEAFKLVQFQTLNFPMDITFKKVFEEKLDMKRSTREFIINKFETLTKYVVARLNSV
ScNdc10p 576 LLKQQSFEYVQFQTLNFCILLSVFNKIFEKLEMKKSSRGYIILHQLNLFKITLDERIKKS

CgNdc10p 601 TSEEITSYFDDILEKKNGLRYINKESNSVDKQISGRDVVDNLKRKKQKQKRRFKLSVDD
ScNdc10p 636 KIDDADKFIKRNQP----IKK--EEN-----IVNEDGPNTSRRTKRPKQIRLLSIADSS

CgNdc10p 661 SSSGTTDDANEDSVNDSSTESDSSTDDLHEEENAMQEQISSMIDELVTKKLSLFDVKFEQ
ScNdc10p 684 DESSTEDSNVFKKDGESIEDGAYGENEDENDSEMQEQLKSMINELINSKISTFLRDQMDQ

CgNdc10p 721 MEMKLESLVKNTVSEKFNHYIAQESKKRS-----YEGDFEIDNTKKIRK
ScNdc10p 744 FELKINALDKILEKVTRIIEQKLGSHIGQFSTLKRPLYMTEEHNVCFDMEVPPKLR

CgNdc10p 765 SIDDGIKEKFNKVNSTSTGAEHEH-----FVFRMADTLDSDIEIQEWYTPD
ScNdc10p 804 SGKYAETVKDNDHQAAMSTTASPSPEQDQEAQSYTDEQEFMLDKSIDSIEGIILEWFTPN

CgNdc10p 813 PKQGNM~~CVHSMNK~~KYKSK~~WR~~TGF~~E~~KIYRERK~~P~~IVDFFIYLVNMEKLSRSKALS~~S~~ICWELKS
ScNdc10p 864 AKYANQ~~CVHSMNK~~SGNKS~~WR~~RANCEALYKERKS~~L~~VEFYIYLVNHES~~L~~DRYKAVDICEKLRD

CgNdc10p 873 QNNFIVSELSAYL~~K~~SW~~K~~EKNNSIFVGLLNQ~~I~~QHT
ScNdc10p 924 QNEG~~S~~FSRLAK~~F~~L~~R~~K~~W~~RHDH~~Q~~NSFDGLIVY~~L~~SN-

(B)

CgCep3p 1 MFQRP LPTKSNR PCSVCSK RRVKCDRLVPCGHCRKRGTESECVQSAISANKGNHSEKGY
ScCep3p 1 MFNRTTQLKSKHPCSVCTRRKVKCDRMI PCGNCRKRGQDSECMKSTKLTITAS---SSKEY

CgCep3p 61 LSGLLRFWQSYEYWI PNIGLFKSKQLKYENNEV-LDYLNVEAQFWESSITETGSKLLNY
ScCep3p 58 LPDLLLFWQNYEYWI TNIGLYKTKQRDLTRTPANLDTDTEECMFWMNYLQKDQSFQLMNF

CgCep3p 120 TLENLGTLYFGCIGDVTELYKILEQYWDIKEDQSSKLPFSDSDKCYSRALLWSIFTMGVY
ScCep3p 118 AMENLGALYFGSIGDISELYLRVEQYWDRRADKN-----HSVDGKYWDALWSVFTMCIY

CgCep3p 180 YCPKELLDGIIISIDKVRDFT--KKQTLTEEQIRCKIYEGFITTITIDSLYRCNFMAQPDIR
ScCep3p 173 YMPVEKLAEIFSVYPLHEYLGSNKRLNWDGMLQVWCQNFARCSLFQKQCFMAHPDIR

CgCep3p 238 FIQTYIILSTTLYSIFQPIQANMILTNA MYVTKLLSATVISASNSEDIIGSIANESLNRL
ScCep3p 233 LVQAYLILATTTFPYDEPLLANSLLTQCIIHTFKNFHVDDFRPLLNDPVEISIAKVILGRI

CgCep3p 298 WYRICADYIQEGPNXSIDFNRELGSLLKHAAYLEDLPSTDVYKEEDNYEILFWKLLSLD
ScCep3p 293 FYRLCGCDYLOSGPRKPIALHTEVSSLLQHAAYLQDLPNV DVYREENSTEVLYWKIISLD

CgCep3p 358 RDIDQYLNGLKPPPKTLDAVQREVDIYTQKVS NLEEDQKSINSKFEKFLCHFIITYTVSW
ScCep3p 353 RDLIDQYLNKSSKPPKTLDAIRRELDIFQYK VDSLEEDFRSNNSRFQKFIALFQISTVSW

CgCep3p 418 KIQKIQIIFYDNKVS LNKLRITKNI IKLVKNFEHGHDTFNKHPLVIYLSRVATFTNF
ScCep3p 413 KLFKMYLIYYDTADSLKVIHYSKVIISLIVNNEHAKSEFFNRHPVMQITIRVVSFISF

CgCep3p 478 YHIFENSVEIHEIVLDINELIVNLPPIFGNHLNLYIIFRFTLLRKEFGKTDVVDVTGGE
ScCep3p 473 YQIFVESAAVKQLLVDTTEL TANLPTIFGSKLDKLVYLTERLSKLLKLVQQLDSDGS

CgCep3p 538 FQHPVFKVLQNDVATISKSNKNLYLLKGLGSLIPGKSI GEG--IYEEDSDMLDPTILE
ScCep3p 533 FYHPVFKILQNDIKI TELKNDEMFSLIKGLGSLVPLNKIRQESLIEEEDENNTEPDSDFRT

CgCep3p 596 IVSEFEKYPIDRVI-
ScCep3p 593 IVSEEFQSEYNISDILS

(C)

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CgCtf13p 1 MVEERFNTLRFLDQPYEVRKLVVYHLDGQYTNANFPALDALYHG-AIEIPNVRDYGGSKK
ScCtf13p 1 --MPSFNPVRFLELPIDIRKEVYFHLDGNECCGHPYPIDILYKSNDEVLEPGKPSYKRSKR

CgCtf13p 60 VKKYYRQLVKKLYPLFEQYLQNFQYSPAMIESWLEYSLWLRYPDATVLDSEIRLNHLYDGEL
ScCtf13p 59 SKK----LLRYMYPVEATYLNIFEYSPQLIEKWLEYAFWLRDCLVLDLCKVNHLYDGTL

CgCtf13p 120 VGPLDWIEIDGDLRLAVINKLYMLQVWYSYGEYKRWVIRNNITDYGDVLELGYLRNLNEM
ScCtf13p 115 IDALEWTYLDNELRLAYFNKASMLEVWYTFKEYKRWVDSVAFDELILNVSNIQFNIDN

CgCtf13p 179 QRDGQIPNIIQKLRKKEQLNLISEINF TTN-----IDTVTNGNANGHVKRGTNLKRA
ScCtf13p 175 LTPQLVDKCLSIIEQKDLFATIGEVQFGQDEEVGEEKVDVSGANSDENSPSSTIKKNK

CgCtf13p 231 RSDSPDVYLEDPMKERYQIPNDPALTEITVNLLEMKQVSSLSVRGKNLYESLINVHGAR
ScCtf13p 235 RSASKRSHSDNGNVGATHQLTSSISVIRTIIRSMESMKSLRKITVRGEKLYELLINFHGFR

CgCtf13p 291 DNPGR TISYISRRRVMRIAMNQVLNPSETGLADLTKWVNLRVISINDCGFIDLNKLILPS
ScCtf13p 295 DNPGR TISYIVKRRINEIRLSRMNQISR TGLADFTRWDNLQKLVLSRVAYIDLNSIVFPK

CgCtf13p 351 KAISLSLSNIRELRWWEFEMDSAIQAQFQQNKLLPYRPLFDLCEAGIHY-----TLD
ScCtf13p 355 NFKSLTMKRVS KIKWVNIENILKELKVDKRTFKSLSYIKEDDSKFTKFNLRHTRIKELD

CgCtf13p 403 KKSISLVELKKFQTTWKKLQALNWIKINNVAMISNKFIVIPKTLYESKRTVLFSTTVHS
ScCtf13p 415 KSEINQITYLRCQAI VWLSFR TLNHIKLNQVSEVFN-NIIVPRALFDSKRVELYRCEKIS

CgCtf13p 463 NIVVI
ScCtf13p 474 QVLVI
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(D)

CgMif2p 1 MDYMNGLGRSRKTGIDVKK--FKDEYSMENIDDFKDDDTSLFSLRR-KSRKSSLIPEADI
ScMif2p 1 MDYMKLGLKSRKTGIDVKQDIPKDEYSMENIDDFKDDDTSLISMRRKSRKSSLIFFLPST

CgMif2p 58 QN---RILPSPLTKQHNVRDIDGFKVPSIN-VSRSTIERAPTEFQN-SVISEDIPPEVI
ScMif2p 61 LINGDTKNVLPPLFLQSYKSQDDEVVQSPSGKGDGSRSSLLSHQSNFLSPANDFEPIIEEP

CgMif2p 113 PYEGQSATPDRNIEPIDEDELANMPKPRYRSQYNLGAGNDDTDLINLTPEKDG-RGTYNQ
ScMif2p 121 EQEENDIRGNDFATPITQKLSKPTYKRKYSIRYSIDTS--ESPSVRLTPDRITKNVYS

CgMif2p 172 VPDLDDEGDTSKDNTTFNTSDHAMLEDEVED-GFVLESEEDRDYMESEGLADDITDDA
ScMif2p 179 VPDLVADEDDDDRVTSLNTSDNALLEDELEDDGFIPSEEDGDYIESDS-SLDSGSDSA

CgMif2p 231 SDSGD DIGTQFAAEINRPGNESPLSSDDEDYISENSTGHNRLDEIDNPSPTRLSKPYD
ScMif2p 238 SDSDGDNTYQEVVEEAEVNV----TNDNEDDYIRRCASDVVRTDSIIDR-----

CgMif2p 291 IVDGVRRSKRVKIPPLEYWRNEKIQYKRRNEPVLDDIDKVITYNHSESEEESEEEQKKVK
ScMif2p 282 --NGLRKSTRVKVAPLQYWRNEKIVYKRKSNKPVLDDIDKIVTYDESEEEELAAQRKK

CgMif2p 351 KQRKPVTRTRPYNYVPTGRPRGRPRKN-----ISDDPNCNLIKKIENGEEPKGEWLKH
ScMif2p 340 QKKKPTP-TRPYNYVPTGRPRGRPKKDPNAKENLIPEDPNEDIIERIESGKIENGEWLKH

CgMif2p 404 GMLEATVKN--LHGAKTELAVAMAPNVSQSEETKASGEDDYSEIEILFDKYNEAFASGMLK
ScMif2p 399 GILEANVKISDTKETKDEIIAFAPNLSQTEQVKDTKDNFALEIMFDKHKKEYFASGILK

CgMif2p 462 VPVD-GRKSPADSNTAFITFHVLIDGIVEVTLDGKNFICTKGSSFQIPAFNEYAFANIGSN
ScMif2p 459 LPAISGQKKLSNSFRTYITFHVIQGIVEVTVCKNKFISVKGSTFQIPAFNEYAIAANRGN

CgMif2p 521 EVRMFFVQVSPPSDFHSEHY-----
ScMif2p 519 EAKMFFVQVTVSEANDNDKELDSTFDTFG

(E)

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CgCse4p 1 MSTRQAVFERDVIDEDRWPRSARGLAGVNTVFEGDSEIN SKAMRLLEKTRHRNLLNRRED
ScCse4p 1 MSSKQQWVSSAIQSD---SSGRSLSNVNR LAGDQQSINDRALSLLQTRATKNLFPREE

CgCse4p 61 RRRYLGGVKAKAIESDYHRNQLPSSYDAGNDLFE PINNSHVSEEEENKRLPEKYS LDKY
ScCse4p 58 RRRYESSKSDLDIETDYEDQAGN-----LEIETENEEEAEMETEVPAPVRTHSYALDRY

CgCse4p 121 VKRSRKQRDHRHIVAKPK EKRNFAPSKLAMYETEKYQRSTALLIQKIPFAKLVKEVT EEF
ScCse4p 112 VRQKRREKQRKQSLKR--VEKKYTPSELALYEIRKYQRSTDLLISKIPFARLVKEVTDEF

CgCse4p 181 AGESQDLRWQSMATLALQEASEAYLVGLLEHTNLLALHAKRITIMKDMQLARRIRGQFI
ScCse4p 170 TTKDQDLRWQSMATLALQEASEAYLVGLLEHTNLLALHAKRITIMKDMQLARRIRGQFI
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Figure A1. Amino acid alignments of *C. glabrata* and *S. cerevisiae* inner kinetochore proteins.

Multiple sequence alignments of protein sequences were performed by the program CLUSTALW (60) at the Baylor College of Medicine, USA (<http://searchlauncher.bcm.tmc.edu/multi-align/multi-align.html>). Printouts of the aligned amino acid sequences were created with the Boxshade program. A) Ndc10p; B) Cep3p; C) Ctf13p; D) Mif2p; E) Cse4p.