



Supplementary Figures 1. (A) Flow scheme of the calibrated ChIP-seq procedure. (B) Analysis pipeline of sequencing data using Galaxy platform

## Supplementary Figures 2



Supplementary Fig 2 Expression of Scc1PK9 in *Saccharomyces cerevisiae* and *Candida glabrata* cells. Proteins were extracted from exponentially grown yeast cells and resolved by SDS-PAGE. The Scc1PK9 were detected using anti-PK antibody.



Supplementary Fig 3.

Regions within the *S.cerevisiae* genome whose sequences align with those of *C.glabrata*. (A) ChIP-seq sequences from *S.cerevisiae* only that align to both *S.cerevisiae* and *C.glabrata* genomes mapped onto chromosome 1 from *S.cerevisiae* (top), ChIP-seq sequences from *S.cerevisiae* only that align only to *S. cerevisiae* (middle), and ChIP-seq sequences from *S. cerevisiae* only mapped onto its chromosome I (bottom). All on the basis of reads per million. The overall profile of Chr I shown on the top three panels and a more detailed profile of a region (62,000-88,000) shown in the bottom panels. (B) ChIP-seq sequences from *S.cerevisiae* only that align to both genomes mapped onto rDNA region on chromosome XII from *S.cerevisiae*. (C) Correlations between ChIP-seq signals derived from all reads and those that

align only to *S. cerevisiae*. The numbers of reads assigned to each base pair of all the chromosomes (left) or all the chromosomes except Chr XII (right) in the alignment using sequences only aligned to *S. cerevisiae* were plotted against those using all the sequences.



А



Supplementary Fig 4.

(A) Calibrated ChIP-seq profiles obtained by multiplying the uncalibrated profiles from Fig. 3C by the corresponding ORs. (B) Correlations between ChIP-seq signals derived from SacCer pure culture (100%) and from 20% SacCer mixture. ChIP-seq signals of each base pair except Chr XII bearing rDNA obtained from SacCer pure culture (100%) were plotted against those from 20% SacCer mixture.

Supplementary Fig 5



Supplementary Fig 5.

Sequences obtained from ChIP-seq shown in Fig1 B aligned to the *C.glabrata* genome. The distribution of CanGla\_Scc1 on chromosome 1A (A) or rDNA region (B), using alignment either with all reads from a pure *C.glabrata* ChIP-seq or reads unique to *C.glabrata* from ChIP-seq from a *C.glabrata*/S.cerevisiae mixture.



Supplementary Fig. 6.

Exponential phase *S.cerevisiae* cells (K14061) were arrested in G1 with  $\alpha$ -factor and allowed to re-enter the cell cycle by transferring cells to pheromone free YPD media containing nocodazole, which prevents nuclear division. Samples of fixed cells with mixed with pre-fixed *C.glabrata* cells (K23308) and processed for ChIP-seq. (A) DNA content shown by FACS. (B) ORs from each time point after release. (C) Uncalibrated ChIP-seq profile of Scc1 on chromosome 1. (D) Calibrated ChIP-seq profile of Scc1 on chromosome 1.



Supplementary Fig 7 Calibrated ChIP-seq profile of Scc1 in the presence or absence of Scc2. G1-arrested S.cerevisiae cells with wild type SCC2 (K14601) or a ts allele scc2-4 (K14710) were released into YPD media containing nocodazole at the restrictive temperature. After 60 minutes, cells were fixed, mixed with fixed C.glabrata cells and calibrated ChIP-seq performed. (A) Calibrated ChIP-seq profiles of chromosome 1. (B) A comparison of the ChIP-microarray data from Lengronne et al., 2004 with the calibrated ChIP-seq data. The first five panels were adapted from Fig 3C in Lengronne et al., 2004. Detail of the localisation on the left arm of chromosome VI, from top to bottom, of Scc2-HA6 in hydroxyurea-arrested cells, Scc1-HA6 in scc2-4 mutant cells released from G1 into hydroxyurea block at restrictive temperature, Scc1-HA6 in wild-type cells 10 min, and 30 min following release from G1 at 16°C, and Scc1-HA6 in hydroxyurea-arrested wild-type cells. Enrichment in the immunoprecipitated fraction relative to a whole genome DNA sample is shown along the length of the chromosome. Each bar represents the average of 16 oligonucleotide probes within adjacent 300 bp windows. The y-axis scale is log2. Dark grey signals represent significant binding. The green and red dashed lines flank sites usually seen bound by Scc2 and Scc1, respectively. The last two panels are the corresponding calibrated ChIP-seq profiles of Scc1 in wild type and scc2-4 cells strains described in A. Gratifyingly, the peaks observed by us in wild type cells using calibrated ChIP-seq (bottom panel) correspond to those observed by Lengronne et al. Note however that our scale is linear and theirs log2. According to Lengronne et al., these peaks largely disappear in scc2-4 mutants but are replaced by others that co-incide with peaks of Scc2 binding in wild type cells. This phenomenon is not observed in our calibrated ChIP-seq profiles, implying that they are artefacts caused by background noise, which could not be measured using the uncalibrated technique used by Lengronne et al.







Supplementary Fig. 8.

(A) DNAs from whole cell extracts (W) in the experiment described in Fig 3 were sequenced and aligned to *S.cerevisiae* genome. The number of reads per base pair (Y-axis) in the 15kb regions either side of the CDEIII for each chromosome (X-axis) were averaged. (B) The detailed cohesin distribution in cycling Smc3 WT and E1155Q ATP hydrolysis mutant cells with a smaller Y-axis scale from Fig 8B. The E1155Q peak has been truncated.

## Suppelmentary movie 1

Tetraploid yeast cells in which endogenous Scc1 or Mtw1 was fused with EGFP and mCherry respectively (K18719) were grown in YPD at 25°C and transferred to a microscopy slide with a media-containing agarose patch. The cells were observed under PE spinning disc confocal microscope. The pictures were taken every 2 minutes.

Supplementary Table 1 The Strains used in this study

Strain no	Genotype
K699	MATa,ade2-1,trp1-1,can1-100, leu2-3,112,his3-11,15,ura3,GAL,psi+
K14061	Mat a, Scc1PK9::KanMX
K14710	MAT a, Scc1PK9::KanMX, scc2-4
K17407	MATa, trp1::Smc3PK6::TRP1
K17409	MATa, trp1::smc3(E1155Q)PK6::TRP1
K18719	MATa/a/α/α, SCC1EGFP::HIS3, Mtw1-RFP:KanMX, ADE2
K22390	MATa, Scc1PK9::KanMX, scc2-45
K22703	MATa, trp1::smc3(K112Q, K113Q)PK6::TRP1
K23308	C.glabrata, Mat a, Scc1PK9::NatMX

## Supplementary Table 2 Summary of ChIP-seq

100%SacCer     IP     8649638     8149434     2742     333244       1     WCE     5167495     4740954     472     249885       50%SacCer     IP     8413598     5155020     2852480     270814       100%CanGla     IP     7945771     11513     7681970     127372       100%SacCer     IP     8187797     7448960     4375     391479       WCE     6302634     1327     6077692     1629833       80%SacCer     IP     5013237     4807985     1169076     282471       80%SacCer     WCE     7195107     3898658     2742289     299300       60%SacCer     WCE     7195107     3898658     2742289     293930       20%SacCer     IP     5617248     1952501     313843     194610       20%SacCer     WCE     881110     2516456     5737817     351168       20%SacCer     WCE     484809     357     4618598     166346       10     1P     5603644     4358     597	Figs	Experiments		Reads used in alignment	Uniquely mapped to S.cerevisiae	Uniquely mapped to C.glabrata	Mapped to both genomes
100%SacCer     WCE     517495     4740954     472     249885       1     50%SacCer     IP     8413598     5155020     2852480     270814       100%CanGla     IP     7945771     11513     7681970     127372       100%CanGla     IP     7945771     11513     7681970     122372       100%SacCer     IP     818779     7449500     4375     391479       100%SacCer     IP     818779     7449500     4375     391479       80%SacCer     IP     818779     744950     4375     391479       40%SacCer     IP     715107     3898658     274228     299300       60%SacCer     WCE     14421988     9819225     3423828     701311       40%SacCer     IP     719027     3509427     3476955     344982       20%SacCer     IP     1007924     1816853     8671375     293720       0%SacCer     IP     7030664     4338     5979285     134450       0%SacCer     IP <td< td=""><td rowspan="6">1</td><td></td><td>IP</td><td>8649638</td><td>8149434</td><td>2742</td><td>333244</td></td<>	1		IP	8649638	8149434	2742	333244
1     100     100     200		100%SacCer	WCF	5167495	4740954	472	249885
1     50%SacCer     mcc     6072558     2070269     3884251     187540       100%CanGla     IP     7945771     11513     7681970     127372       100%SacCer     IP     818779     7448960     4375     391479       100%SacCer     IP     818779     7448960     4375     391479       80%SacCer     IP     6503237     4807985     1169076     282471       60%SacCer     IP     6503237     4807985     1169076     282471       60%SacCer     IP     7510027     3509427     3476555     344982       40%SacCer     IP     751027     3509427     3476555     344982       20%SacCer     IP     6300664     4358     597285     134250       0%SacCer     IP     6300664     4358     597285     134250       0%SacCer     IP     7681260     1281853     8671375     293720       0%SacCer     IP     7681260     1281873     524773     28833       10%CE     4844097			IP	8413598	5155020	2852480	270814
Image: constraint of the image in the image. The image in the image. The image in the image. The image in the image. The image in the imag		50%SacCer	WCE	6267558	2070269	388/251	1875/0
100%CanGla     Inc. Job J. J.     11327     6077692     162983       100%SacCer     IP     818797     7448960     4375     391479       WCE     9931526     8858474     258     578666       80%SacCer     IP     6503237     4807985     1169076     282471       80%SacCer     IP     7195107     3898658     2742289     299300       60%SacCer     IP     7195107     3898658     2742289     299300       40%SacCer     IP     5617248     1952501     3133843     194610       20%SacCer     IP     6030664     4358     5973817     351168       20%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     IP     7681260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733			ID	79/5771	11513	7681970	127372
VICE     0.00/000000000000000000000000000000000		100%CanGla		6202624	1227	6077602	167082
100%SacCer     IP     61373     33343     33343       80%SacCer     IP     6503237     4807985     1169076     282471       60%SacCer     IP     7195107     3898658     2742289     299300       60%SacCer     IP     7195107     359427     3476955     344982       40%SacCer     IP     7510027     3509427     3476955     344982       20%SacCer     IP     5617248     1952501     3133843     194610       20%SacCer     IP     600%07924     1816833     8671375     293720       0%SacCer     IP     6030664     4358     5979285     134250       0%SacCer     IP     7643996     1715056     5263874     260471       0%CE     4848097     554139     3699691     166346       15'     WCE     484809     1715056     5263874     260471       15'     WCE     4385067     1227278     943047     129176       30'     IP     7662394     3457095     3389708 <t< td=""><td rowspan="2"></td><td rowspan="2">100%SacCer</td><td></td><td>0302034 9197707</td><td>7//8060</td><td>1275</td><td>201/70</td></t<>		100%SacCer		0302034 9197707	7//8060	1275	201/70
VCL     933120     8383474     233     378000       80%SacCer     IP     6503237     4807985     1169076     282471       60%SacCer     IP     7195107     3898658     2742289     299300       40%SacCer     IP     7510027     3509427     3476955     344982       40%SacCer     IP     5617248     1952501     3133843     194610       WCE     881110     2516456     5737817     351168       20%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     WCE     4484097     554139     3699691     164315       0%SacCer     WCE     4484809     357     4618598     166346       0%CE     VCE     4848409     357     4618598     166346       15'     IP     7681260     1881873     5247733     288333       15'     VCE     4088149     1479460     1537002     150133       30'     WCE     4088149     1479460     1537002     150133				0021526	0000171	4373	579666
80%SacCer     WCE     14421988     9819225     1109070     228471       60%SacCer     IP     7195107     3898658     2742289     299300       40%SacCer     IP     7510027     3509427     3476955     344982       40%SacCer     IP     5617248     1952501     3133843     194610       20%SacCer     WCE     8811110     2516456     5737817     351168       20%SacCer     IP     11067924     1816853     8671375     293720       0%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     IP     7543996     1715056     5263874     260471       15'     IP     7663260     1881873     5247733     288333       15'     WCE     4894809     357     4618598     166346       15'     IP     7681260     1881873     5247733     288333       15'     WCE     489480     1479460     1537002     150133       45'     WCE     4037989     2015				6502227	1207025	1160076	292/171
$4 \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		80%SacCer		14421099	0010225	2422020	701221
60%SacCer     IP     7133107     3393033     21742439     239303       40%SacCer     IP     5617248     1952501     3133843     194610       20%SacCer     IP     5617248     1952501     3133843     194610       20%SacCer     IP     11067924     1816853     8671375     293720       0%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     IP     7543996     1715056     5263874     260471       15'     IP     7681260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733     288333       160'     IP     790172     5364612     1880555     457384       60'     IP     8000705     5751973				7105107	2808658	27/220	200200
2     WCE     7310027     33103427     3471933     344362       40%SacCer     IP     5617248     1952501     3133843     194610       20%SacCer     IP     11067924     1816853     8671375     293720       0%SacCer     IP     1007924     1816853     8671375     293720       0%SacCer     IP     6300664     4358     5979285     134320       0%SacCer     IP     7543996     1715056     5263874     260471       0'     WCE     4844809     357     4618598     166346       15'     IP     7681260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733     288333       30'     IP     746394     3457095     3389708     413464       30'     IP     7462394     3457095     3389708     413464       45'     IP     8000705     5751973     1632536     390736       45'     IP     8000703     5751973     1632		60%SacCer		7193107	2500427	2/42203	233300
40%SacCer     IP     3017248     1932301     3133843     194010       20%SacCer     IP     11067924     1816853     8671375     293720       0%SacCer     WCE     4484097     554139     3699691     164315       0%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     WCE     484409     357     4618598     166346       0     IP     7543996     1715056     5263874     260471       WCE     4799271     2149440     1824440     216780       15'     IP     7681260     1881873     5247733     288333       30'     IP     7681260     1881873     5247733     288333       45'     IP     7681260     1881873     5247733     288333       45'     IP     7681260     188173     5247733     288333       45'     IP     8000705     5751973     1632536     390736       45'     IP     8000705     5751973     1632536     3	2			F617249	1052501	2122012	104610
WCE     381110     2310436     373737     331168       20%SacCer     IP     11067924     1816853     3671375     293720       0%SacCer     WCE     4484097     554139     3699691     164315       0%SacCer     IP     6300664     4358     5979285     134250       0%SacCer     IP     7543996     1715056     5263874     260471       10     WCE     4799271     2149440     1824440     216780       15'     IP     7681260     1881873     5247733     288333       30'     IP     7682394     3457095     3389708     413464       30'     WCE     4088149     1479460     1537002     150133       45'     IP     8000705     5751973     1632536     390736       45'     IP     8000705     5751973     1632536     390736       75'     IP     874623     5425977     2627861     482907       75'     IP     8281167     3709947     3925376     43		40%SacCer		9911110	2516456	5155045	251169
20%SacCer     IP     11007924     1810833     8071973     23320       0%SacCer     WCE     4484097     554139     3699691     164315       0%SacCer     WCE     4844809     357     4618598     166346       0°     IP     7533966     1715056     5263874     260471       15'     IP     7581260     1881873     5247733     288333       15'     IP     7681260     1881873     5247733     288333       30'     IP     7462394     3457095     3389708     413464       30'     IP     7462394     3457095     3389708     413464       45'     IP     800705     5751973     1632536     390736       45'     IP     800705     5751973     1632536     390736       45'     IP     7901072     5364612     1880565     457384       60'     IP     8724623     5425977     2627861     482907       75'     IP     872623     5425977     2627861				11067024	1016052	0671075	202720
IP     6300664     4358     5979285     134250       0%SacCer     IP     6300664     4358     5979285     134250       0'     IP     7543996     1715056     5263874     260471       0'     IP     7543996     1715056     5263874     260471       15'     IP     7681260     1881873     5247733     288333       15'     IP     766234     3457095     3389708     413464       30'     IP     7462394     3457095     3389708     413464       45'     IP     8000705     5751973     1632536     390736       45'     IP     8000705     5751973     1632536     390736       45'     IP     8000705     5751973     1632536     390736       75'     IP     8742623     5425977     2627861     482907       75'     IP     8742623     5425977     2627861     482907       90'     IP     821167     3709947     3925376     436316		20%SacCer		11007924	1010000	2600601	295720
0%SacCer     IP     0500604     4353     397283     134230       0'     WCE     4844809     357     4618598     166346       0'     IP     7543996     1715056     5263874     260471       15'     IP     7681260     1881873     5247733     288333       30'     IP     7681260     1881873     5247733     288333       30'     IP     7462394     3457095     3389708     413464       30'     WCE     4088149     1479460     1537002     150133       45'     IP     8000705     5751973     1632536     390736       45'     IP     8000705     5751973     1632536     390736       45'     IP     790172     5364612     1880565     457384       60'     IP     790172     5364612     1880565     457384       90'     IP     8742623     5425977     2627861     482907       90'     IP     821067     3709947     3925376     43631				6200664	1259	5033031	124313
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		0%SacCer		4944900	4556	J979265 1619509	154250
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				7542006	1715056	4010390 E262974	260471
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		0'		/343330	2140440	1924440	200471
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				7681260	1991972	524440	210780
$ \begin{array}{ c c c c c c } \hline & \begin{tabular}{ c c c c c } \hline & \begin{tabular}{ c c c c c c } \hline & \begin{tabular}{ c c c c c c } \hline & \begin{tabular}{ c c c c c c } \hline & \begin{tabular}{ c c c c c c } \hline & \begin{tabular}{ c c c c c c } \hline & \begin{tabular}{ c c c c c c c } \hline & \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		15'		3835067	1227278	9/20/7	120176
$ \begin{array}{ c c c c c c c c } \hline 30' &  P  & 7402394 & 3437033 & 3383708 & 443404 \\ \hline & WCE & 4088149 & 1479460 & 1537002 & 150133 \\ \hline & WCE & 4088149 & 1479460 & 1537002 & 150133 \\ \hline & WCE & 412400 & 2003686 & 880835 & 139048 \\ \hline & WCE & 4142400 & 2003686 & 880835 & 139048 \\ \hline & WCE & 4037989 & 2015483 & 1067352 & 159223 \\ \hline & WCE & 4037989 & 2015483 & 1067352 & 159223 \\ \hline & WCE & 4037989 & 2015483 & 1067352 & 159223 \\ \hline & WCE & 8109238 & 4156022 & 2370402 & 349516 \\ \hline & 90' &  P  & 8281167 & 370947 & 3925376 & 436316 \\ \hline & WCE & 4037514 & 1927183 & 1221604 & 167245 \\ \hline & 105 &  P  & 8510608 & 4966486 & 2820996 & 513929 \\ \hline & 105 &  P  & 8510608 & 4966486 & 2820996 & 513929 \\ \hline & 120' &  P  & 7587642 & 5412167 & 1526342 & 448663 \\ \hline & WCE & 3823932 & 2029288 & 950066 & 147404 \\ \hline & WCE & 3823932 & 2029288 & 950066 & 147404 \\ \hline & WCE & 5190484 & 2658954 & 1952406 & 245065 \\ \hline & WCE & 5190484 & 2658954 & 1952406 & 245065 \\ \hline & Scc1-PK9 &  P  & 7807015 & 5325623 & 2034825 & 241734 \\ \hline & WCE & 5190484 & 2658954 & 1952406 & 245065 \\ \hline & Scc2-45 &  P  & 11825641 & 193071 & 9485933 & 80169 \\ \hline & WCE & 1195420 & 4729218 & 6128951 & 228601 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11132673 & 2880422 & 7804500 & 237480 \\ \hline & WCE & 111123673 & 2880422 & 7804500 & 237480 \\ \hline & WCE & 11123673 & 2880422 & 7804500 & 237480 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 111123673 & 2880422 & 7804500 & 237480 \\ \hline & WCE & 11813591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11813591 & 5343407 & 6008495 & 191748 \\$				7462204	2/57005	2280708	112/6/
$ \begin{array}{ c c c c c c c c } & WCL & 4038149 & 1479400 & 1137002 & 1130133 \\ \hline WCL & 4038149 & 1479400 & 1137002 & 1130133 \\ \hline WCL & 403705 & 5751973 & 1632536 & 390736 \\ \hline WCE & 4142400 & 2003686 & 880835 & 139048 \\ \hline & WCE & 4037989 & 2015483 & 1067352 & 159223 \\ \hline & WCE & 4037989 & 2015483 & 1067352 & 159223 \\ \hline & WCE & 8109238 & 4156022 & 2370402 & 349516 \\ \hline & WCE & 8109238 & 4156022 & 2370402 & 349516 \\ \hline & WCE & 4037514 & 1927183 & 1221604 & 167245 \\ \hline & WCE & 4037514 & 1927183 & 1221604 & 167245 \\ \hline & WCE & 3535912 & 1724098 & 1011956 & 141023 \\ \hline & WCE & 3535912 & 1724098 & 1011956 & 141023 \\ \hline & WCE & 3823932 & 2029288 & 950066 & 147404 \\ \hline & WCE & 5190484 & 2658954 & 1952406 & 245065 \\ \hline & Scc1-PK9 & IP & 7807015 & 5325623 & 2034825 & 241734 \\ \hline & WCE & 3974258 & 2208634 & 1288338 & 199282 \\ \hline & Scc2-45 & IP & 11825641 & 1933071 & 9485933 & 80169 \\ \hline & WCE & 11395420 & 4729218 & 6128951 & 228601 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & WCE & 11831591 & 5343407 & 6008495 & 191748 \\ \hline & Scc2-4 & IP & 8477187 & 567386 & 7253166 & 44165 \\ \hline & WCE & 11123673 & 2880422 & 7804500 & 237480 \\ \hline \end{array}$		30'		/402394	1470460	1527002	150122
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				9000705	5751072	1622526	200726
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		45'		4142400	2003686	880835	1390/30
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				7001072	5364612	1880565	157384
6     IP     8742623     5425977     2627861     482907       90'     IP     8742623     5425977     2627861     482907       90'     IP     8281167     3709947     3925376     436316       90'     IP     8281167     3709947     3925376     436316       90'     IP     8281167     3709947     3925376     436316       105     IP     8510608     4966486     2820996     513929       105     IP     8510608     4966486     2820996     513929       105     IP     75787642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       120'     IP     7074281     212015     6488523     193026       Scc1     IP     7074281     212015     6488523     193026       Scc1-PK9     IP     7807015     5325623     2034825     241734       Scc2-45     IP     11825641     1933071     9485933	4	60'		/037080	2015/83	1067352	150222
75'     III     60742023     3423377     2027001     402307       90'     IP     8109238     4156022     2370402     349516       90'     IP     8281167     3709947     3925376     436316       90'     IP     8281167     3709947     3925376     436316       105     IP     8510608     4966486     2820996     513929       105     IP     8510608     4966486     2820996     513929       105     IP     7587642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       WCE     3823932     2029288     950066     14704       Scc1     IP     7074281     212015     6488523     193026       WCE     5190484     2658954     1952406     245065       Scc1-PK9     IP     7807015     5325623     2034825     241734				8742623	5/25977	2627861	133223
6     and scc2-45     IP     8281167     3709947     3925376     436316       90'     IP     8281167     3709947     3925376     436316       105     IP     8510608     4966486     2820996     513929       105     IP     8510608     4966486     2820996     513929       120'     IP     7587642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       120'     IP     7074281     212015     6488523     193026       Scc1     IP     7074281     212015     6488523     193026       WCE     5190484     2658954     1952406     245065       Scc1-PK9     IP     7807015     5325623     2034825     241734       Scc2-45     IP     11825641     1933071     9485933     80169       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     19		75'	WCE	8109238	/156022	2027001	3/9516
90'     IP     0201107     5705347     5325370     430310       90'     WCE     4037514     1927183     1221604     167245       105     IP     8510608     4966486     2820996     513929       105     WCE     3535912     1724098     1011956     141023       120'     IP     7587642     5412167     1526342     448663       WCE     3823932     2029288     950066     147404       Scc1     IP     7074281     212015     6488523     193026       Scc1-PK9     IP     7807015     5325623     2034825     241734       Scc1-PK9     IP     7807015     5325623     2034825     241734       Scc1-PK9     IP     11825641     1933071     9485933     80169       Src2-45     IP     11825641     1933071     9485933     80169       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748 <td></td> <td></td> <td>ID</td> <td>8281167</td> <td>37099/7</td> <td>3925376</td> <td>/36316</td>			ID	8281167	37099/7	3925376	/36316
6     IP     8510608     4966486     2820996     513929       105     IP     8510608     4966486     2820996     513929       120'     IP     7587642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       8     Scc1     IP     7074281     212015     6488523     193026       %CE     5190484     2658954     1952406     245065     245065       Scc1-PK9     IP     7807015     5325623     2034825     241734       %CE     3974258     2208634     1288338     199282       %CE     11395420     4729218     6128951     228601       %VT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       %CC2-4     IP     8477187     567386     7253166     44165 <t< td=""><td></td><td>90'</td><td>WCE</td><td>4037514</td><td>1927183</td><td>1221604</td><td>167245</td></t<>		90'	WCE	4037514	1927183	1221604	167245
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			ID	8510608	1927105	2820996	513929
6     IP     7587642     5412167     1526342     448663       120'     IP     7587642     5412167     1526342     448663       WCE     3823932     2029288     950066     147404       K     IP     7074281     212015     6488523     193026       K     WCE     5190484     2658954     1952406     245065       Scc1-PK9     IP     7807015     5325623     2034825     241734       Scc1-PK9     IP     7807015     5325623     2034825     241734       WCE     3974258     2208634     1288338     199282       scc2-45     IP     11825641     1933071     9485933     80169       WCE     11395420     4729218     6128951     228601       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     111236		105	WCE	3535912	172/098	1011956	1/1023
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		120'	ID	7587642	5/124050	15263/2	141023
6     IP     7074281     212015     6488523     193026       Scc1     IP     7074281     212015     6488523     193026       WCE     5190484     2658954     1952406     245065       Scc1-PK9     IP     7807015     5325623     2034825     241734       WCE     3974258     2208634     1288338     199282       MCE     11825641     1933071     9485933     80169       WCE     11395420     4729218     6128951     228601       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     11123673     2880422     7804500     237480			WCE	3873937	2029288	950066	147404
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			IP	7074281	212015	6488523	193026
6     IP     7807015     5325623     2034825     241734       6     and     Scc1-PK9     IP     7807015     5325623     2034825     241734       8     scc2-45     IP     11825641     1933071     9485933     80169       8     scc2-45     IP     11825641     1933071     9485933     80169       8     wCE     11395420     4729218     6128951     228601       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     11123673     2880422     7804500     237480		Scc1 Scc1-PK9	WCF	5190484	2658954	1952406	245065
6 and S7     Scc1-PK9     IP     11825641     1933071     9485933     80169       6 and S7     scc2-45     IP     11825641     1933071     9485933     80169       8     wCE     11395420     4729218     6128951     228601       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     11123673     2880422     7804500     237480			IP	7807015	5325623	2034825	243003
6 and S7     IP     11825641     1933071     9485933     80169       WCE     11395420     4729218     6128951     228601       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     11123673     2880422     7804500     237480	6 and S7		WCF	3974258	2208634	1288338	199282
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			IP	11825641	1933071	9485933	80169
S7     IP     6244312     3869289     2174583     71334       WT     IP     6244312     3869289     2174583     71334       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     11123673     2880422     7804500     237480		scc2-45	WCF	11395420	4729218	6128951	228601
WT     III     0211012     0000000     2174000     71000       WCE     11831591     5343407     6008495     191748       scc2-4     IP     8477187     567386     7253166     44165       WCE     11123673     2880422     7804500     237480		<u> </u>	IP	6244312	3869289	2174583	71334
IP     8477187     567386     7253166     44165       scc2-4     WCE     11123673     2880422     7804500     237480		WT	WCF	11831591	5343407	6008495	191748
scc2-4 WCE 11123673 2880422 7804500 237480			IP	8477187	567386	7253166	44165
		scc2-4	WCE	11123673	2880422	7804500	237480

Figs	Experiments		Reads used in alignment	Uniquely mapped to S.cerevisiae	Uniquely mapped to C.glabrata	Mapped to both genomes
7	smc3 K112Q K113Q	IP	7382100	1496755	5311205	362779
		WCE	6513219	3593771	2397198	380127
	smc3 E1155Q	IP	7308322	2003371	4762496	374889
		WCE	9545913	5485553	3295436	569322
	Smc3	IP	5139660	2318971	2398303	325977
		WCE	7678693	4355238	2695373	466759
	0'	IP	8176945	1147587	6685318	154108
S5		WCE	7191787	2454652	4338134	270550
	15'	IP	7773362	2896497	4542125	147636
		WCE	5611224	2540812	2759138	191378
	30′	IP	9430721	7377225	1637029	224316
		WCE	5996454	2907268	2727325	207624
	45'	IP	9239164	7433012	1356368	224316
		WCE	6719251	3253102	3076632	235479
	60'	IP	8879382	6864050	1546378	329778
	00	WCE	7292148	3410023	3455545	271200