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Supplemental Information

**The Kinetochore Receptor
for the Cohesin Loading Complex**

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Supplemental Tables

Table S1. Related to Figure 1 - *CTF19* alleles used in this work

Name	Mutations
<i>ctf19-2A</i>	<i>T4A, S5A</i>
<i>ctf19-3A-1</i>	<i>S5A, T8A, S14A</i>
<i>ctf19-3A-2</i>	<i>T4A, S5A, T7A</i>
<i>ctf19-6A</i>	<i>T8A, S10A, T13A, S14A, S16A, S19A</i>
<i>ctf19-7A</i>	<i>T7A, T8A, S10A, T13A, S14A, S16A, S19A</i>
<i>ctf19-9A</i>	<i>T4A, S5A, T7A, T8A, S10A, T13A, S14A, S16A, S19A</i>
<i>ctf19-2D</i>	<i>T4D, S5D</i>
<i>ctf19-2E</i>	<i>T4E, S5E</i>

Table S2. Related to Figure 6 - *SCC4* alleles used or discussed in this work

Name	Mutations
<i>scc4-m3</i>	<i>F324A, K327D, K331D</i>
<i>scc4-m35</i>	<i>F324A, K327D, K331D, K540A, K541A</i>
<i>scc4-m7</i>	<i>L256K, Y298A, K299D, Y313A, F324A, K327D, K331D</i>

Table S3. Related to Figure 6 – Crystallography statistics

Data Collection	ScC2 ¹⁻¹⁸¹ -ScC4- Ctf19 ¹⁻⁶
Resolution (Å)	39.94-3.19
Wavelength (Å)	0.97918
Space Group	P6 ₂
Unit Cell Dimensions (a, b, c) (Å)	173.0 173.0 145.1
Unit Cell Angles (α , β , γ) (Å)	90 90 120
I/ σ (last shell)	24.37 (1.0)
R _{sym} (last shell) (%)	5.5 (106)
Completeness (last shell) (%)	99.11 (97.9)
Redundancy (last shell)	10.6 (10.3)
Unique Reflections (last shell)	40688 (2026)
Refinement	
Resolution (Å)	39.94-3.19
Number of Reflections	40629
working	38633
free	1994
R _{work} (last shell) (%)	20.9 (37.2)
R _{free} (last shell) (%)	25.8 (41.6)
Structure Statistics	
r.m.s.d. bond lengths	0.011
r.m.s.d. bond angles	1.42

Table S4. Related to STAR Methods – Yeast strains built in w303

Strain Number	Genotype	Reference
AM1145	<i>MATa SCC1-6HA</i>	Fernius et al., 2013
AM1176	<i>MATa W303 wild-type</i>	Fernius et al., 2013
AM4643	<i>MATa pMET-CDC20 2.4CEN4(2.4 kb right of CEN4)::tetOs tetR-GFP</i> <i>SPC42-tdTomato</i>	Fernius et al., 2013
AM6006	<i>MATa SCC2-6HIS-3FLAG::KanMX6</i>	Fernius et al., 2013
AM20613	<i>MATa SCC2-6HIS-3FLAG::KanMX CTF19::HIS3</i>	This study
AM20619	<i>MATa SCC2-6HIS-3FLAG::KanMX ctf19-9A::HIS3</i>	This study
AM20622	<i>MATa SCC2-6HIS-3FLAG::KanMX ctf19-6A::HIS3</i>	This study
AM20629	<i>MATa SCC1-6HA CTF19::HIS3</i>	This study
AM21110	<i>MATa CDC7-6HIS-3FLAG::URA3</i>	This study
AM21234	<i>MATa CDC7-6HIS-3FLAG::URA3 ctf19-9A::HIS3</i>	This study
AM21486	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX CTF19-FKBP12::TRP1</i>	This study
AM21613	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX CTF19-FKBP12::TRP1</i> <i>SCC2-6HIS-3FLAG::KanMX</i>	This study
AM21614	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX CTF19-FKBP12::TRP1</i> <i>SCC2-6HIS-3FLAG::KanMX ctf3Δ::KanMX</i>	This study
AM21617	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX ctf19-9A-FKBP12::TRP1</i> <i>SCC2-6HIS-3FLAG::KanMX ctf3Δ::KanMX</i>	This study
AM21681	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX ctf19-9A-FKBP12::TRP1</i> <i>SCC2-6HIS-3FLAG::KanMX</i>	This study
AM21871	<i>MATa 3yGFP-DBF4</i>	This study
AM21872	<i>MATa 3yGFP-DBF4 ctf19-9A::HIS3</i>	This study

AM21908	<i>MATa SCC2-6HIS-3FLAG::KanMX ctf19-2A::HIS3</i>	This study
AM21958	<i>MATa SCC1-6HA ctf19-2A::HIS3</i>	This study
AM22083	<i>MATa pMET-CDC20 2.4CEN4(2.4 kb right of CEN4)::tetOs tetR-GFP</i> <i>SPC42-tdTomato ctf19-2A::HIS3</i>	This study
AM22226	<i>MATa 3yGFP-DBF4-13Myc::KanMX6</i>	This study
AM22230	<i>MATa 3yGFP-DBF4-FRB::KanMX6</i>	This study
AM22360	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX ctf19-2A-FKBP12::TRP1</i> <i>SCC2-6HIS-3FLAG::KanMX</i>	This study
AM22481	<i>MATa pMET-CDC20 2.4CEN4(2.4 kb right of CEN4)::tetOs tetR-GFP</i> <i>SPC42-tdTomato ctf19-2D::HIS3</i>	This study
AM22484	<i>MATa pMET-CDC20 2.4CEN4(2.4 kb right of CEN4)::tetOs tetR-GFP</i> <i>SPC42-tdTomato ctf19-2E::HIS3</i>	This study
AM22538	<i>MATa CDC7-6HIS-3FLAG::URA3 DBF4-13Myc::KanMX</i>	This study
AM22540	<i>MATa CDC7-6HIS-3FLAG::URA3 DBF4-FRB::KanMX</i>	This study
AM22672	<i>MATa tor1-1 fpr1::NAT DBF4-FRB::KanMX ctf19-2A-FKBP12::TRP1</i> <i>SCC2-6HIS-3FLAG::KanMX ctf3Δ::KanMX</i>	This study
AM23268	<i>MATa CDC7-6HIS-3FLAG::URA3 ctf3Δ:: KanMX</i>	This study
AM23275	<i>MATa 3yGFP-DBF4 ctf3Δ:: KanMX</i>	This study
AM23456	<i>MATa SCC1-6HA ctf19-9A::HIS3</i>	This study
AM24195	<i>MATa CTF19-6HIS-3FLAG::natMX</i>	This study
AM24196	<i>MATa CTF19-6HIS-3FLAG::natMX ctf3Δ:: KanMX</i>	This study
SMH433	<i>MATa leu2Δ0::pGAL1-10::FLAG-cdc7-AS3-CBP-TEV-</i> <i>proA:DBF4::LEU2</i>	This Study
SMH425	<i>MATa CTF19-3FLAG::KanMX6</i>	This study
SMH426	<i>MATa ctf19-9A-3FLAG::KanMX6</i>	This study
SMH427	<i>MATa CTF19-3FLAG::KanMX6 dbf4-9myc::TRP1</i>	This study
SMH159	<i>MATa pMET-CDC20 1.8CEN15(1.8 kb left of CEN15)::lacO-256 lacI-</i>	Goshima and

	<i>GFP</i>	Yanagida, 2000
SMH412	<i>MATa pMET-CDC20 1.8CEN15(1.8 kb left of CEN15)::lacO-256 lacI- GFP CTF19-3FLAG::KanMX</i>	This study
SMH395	<i>MATa pMET-CDC20 1.8CEN15(1.8 kb left of CEN15)::lacO-256 lacI- GFP ctf19Δ::KanMX</i>	This study
SMH396	<i>MATa pMET-CDC20 1.8CEN15(1.8 kb left of CEN15)::lacO-256 lacI- GFP ctf19-9A-3FLAG::KanMX</i>	This study
SMH397	<i>MATa pMET-CDC20 1.8CEN15(1.8 kb left of CEN15)::lacO-256 lacI- GFP ctf19-3A-1-3FLAG::KanMX</i>	This study

Table S5. Related to STAR Methods – Yeast strains built in s288c

Strain Number	Genotype	Reference
SMH170	<i>MATa CDC7-CBP-TEV-2proA::HIS3</i>	Gaemmaghami et al., 2003
SMH372	<i>MATa CTF19-3FLAG::KanMX6</i>	This study
SMH378	<i>MATa ctf19-9A-3FLAG::KanMX6</i>	This study
SMH449	<i>MATa ctf19-2A-3FLAG::KanMX6</i>	This study
SMH450	<i>MATa ctf19-3A-2-3FLAG::KanMX6</i>	This study
SMH401	<i>MATa CTF19-3FLAG::KanMX6 chl4Δ::HIS3</i>	This study
SMH429	<i>MATa CTF19-3FLAG::KanMX6 chl4Δ::HIS3 leu2Δ0::pGAL1-10::6HIS- CDC7:DBF4::LEU2</i>	This study
SMH430	<i>MATa ctf19-9A-3FLAG::KanMX6 leu2Δ0::pGAL1-10::6HIS- CDC7:DBF4::LEU2</i>	This study
SMH404	<i>MATa CTF19-3FLAG::KanMX6 ctf3Δ::HIS3</i>	This study
SMH402	<i>MATa CTF19-3FLAG::KanMX6 dcc1Δ::HIS3</i>	This study
SMH403	<i>MATa CTF19-3FLAG::KanMX6 csm3Δ::HIS3</i>	This study
SMH477	<i>MATa CTF19-3FLAG::KanMX6 SLD7-GFP::HIS3 SPC110- mCherry::hphMX4</i>	This study
SMH480	<i>MATa ctf19-9A-3FLAG::KanMX6 SLD7-GFP::HIS3 SPC110- mCherry::hphMX4</i>	This study
SMH478	<i>MATa ctf19Δ::KanMX6 SLD7-GFP::HIS3 SPC110-mCherry::hphMX4</i>	This study
SMH473	<i>MATa CTF19-3FLAG::KanMX6 CDC7-GFP::HIS3 SPC110- mCherry::hphMX4</i>	This study
SMH476	<i>MATa ctf19-9A-3FLAG::KanMX6 CDC7-GFP::HIS3 SPC110-</i>	This study

	<i>mCherry::hphMX4</i>	
SMH474	<i>MATa ctf19Δ::KanMX6 CDC7-GFP::HIS3 SPC110-mCherry::hphMX4</i>	This study
SMH353	<i>MATa CTF19-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH361	<i>MATa ctf19Δ::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH354	<i>MATa ctf19-9A-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH355	<i>MATa ctf19-3A-1-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH451	<i>MATa ctf19-2A-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH452	<i>MATa ctf19-3A-2-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH459	<i>MATa ctf19-6A-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH460	<i>MATa ctf19-7A-3FLAG::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH416	<i>MATa csm3Δ::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
SMH417	<i>MATa dcc1Δ::KanMX6 SCC2-GFP::HIS3 MTW1-tdTomato::natMX</i>	This study
