

Supplementary Table S4. Domain composition of homologues of APC/C main targets. Domain presence was determined according to the Pfam database. A "-" indicates the absence of conserved domain in the corresponding protein. Empty cells indicate that no homologue of the protein has been detected in the corresponding genome. Profile accession numbers: SMC_hinge (PF06470.4), SMC_N (PF02463.9), Rad21_Rec8 (PF04824.7), Rad21_Rec8_N (PF04825.4), HEAT (PF02985.12), STAG (PF08514.2), WAPL (PF07814.3), Peptidase_C50 (PF03568.7) and Securin (PF04856.4).

			Core complex				Loading complex		Cohesion establishment	Maintenance		Dissolution	
			Smc1	Smc3	Sccl	Sccl3	Sccl2	Sccl4	Eco1	Pds5	Wpl1	Separase	Securin
Opisthokonta	Choanoflagellata	<i>Monosiga brevicollis</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	-	HEAT			HEAT		Peptidase_C50	
		<i>Salpingoeca rosetta</i>	SMC_hinge/SMC_N	-	Rad21_Rec8/Rad21_Rec8_N	NA	HEAT		-	HEAT	WAPL	Peptidase_C50	
	Metazoa	<i>Trichoplax adhaerens</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT/STAG	HEAT	TPR	-	HEAT	WAPL	-	
		<i>Homo sapiens</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	Securin
		<i>Danio rerio</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-	-	-	WAPL	Peptidase_C50	Securin
		<i>Branchiostoma floridae</i>			Rad21_Rec8_N	STAG	HEAT	-	-	HEAT	WAPL	Peptidase_C50	
		<i>Drosophila melanogaster</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	TPR	-	-	WAPL	Peptidase_C50	-
		<i>Lottia gigantea</i>	-	SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-	-	HEAT	WAPL	Peptidase_C50	
		<i>Apis mellifera</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N		HEAT	HEAT	TPR	-	HEAT	WAPL		
		<i>Caenorhabditis elegans</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	-
		<i>Brugia malayi</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-	-	HEAT	WAPL	Peptidase_C50	
		<i>Nematostella vectensis</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Helobdella robusta</i>	-	-	Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Daphnia pulex</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
	Capsaspora	<i>Capsaspora owczarzaki</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
	Fungi	<i>Cryptococcus neoformans</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT		-	HEAT	WAPL	Peptidase_C50	
		<i>Ustilago maydis</i>	SMC_hinge/SMC_N	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT			HEAT	WAPL	Peptidase_C50	
		<i>Aspergillus fumigatus</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Schizosaccharomyces pombe</i>	SMC_hinge/SMC_N	-	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	-	-	HEAT	WAPL	Peptidase_C50	-
		<i>Saccharomyces cerevisiae</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	-	-	HEAT	-	Peptidase_C50	-
		<i>Neurospora crassa</i>	SMC_hinge/SMC_N	SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-		HEAT	WAPL	Peptidase_C50	
		<i>Encephalitozoon cuniculi</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N		-						Peptidase_C50	
		<i>Enterocytozoon bieneusi</i> H348	-									Peptidase_C50	
		<i>Nosema ceranae</i> BRL01		SMC_hinge/SMC_N		-						Peptidase_C50	
		<i>Encephalitozoon intestinalis</i> ATCC 50506	SMC_hinge/SMC_N	SMC_hinge/SMC_N		-						Peptidase_C50	
		<i>Batrachochytrium dendrobatidis</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8_N	STAG	HEAT		-	HEAT	WAPL	Peptidase_C50	
		<i>Spizellomyces punctatus</i>	-	SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-	-	HEAT	WAPL	Peptidase_C50	
Apusozoa		<i>Thecamonas trahens</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT		-			Peptidase_C50	
Amoebozoa		<i>Dictyostelium discoideum</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT		-	HEAT		Peptidase_C50	
		<i>Entamoeba histolytica</i>	SMC_hinge/SMC_N	-	Rad21_Rec8/Rad21_Rec8_N							Peptidase_C50	
Excavata	Metamonada	<i>Giardia intestinalis</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N								Peptidase_C50	
		<i>Trichomonas vaginalis</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT			HEAT		Peptidase_C50	
		<i>Leishmania major</i>	SMC_hinge/SMC_N	SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG			-	HEAT		Peptidase_C50	
	Euglenozoa	<i>Leishmania infantum</i>	SMC_hinge/SMC_N	-	Rad21_Rec8/Rad21_Rec8_N	STAG			-	HEAT		Peptidase_C50	
		<i>Trypanosoma cruzi</i>	SMC_hinge/SMC_N	SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG			-	HEAT		Peptidase_C50	
		<i>Trypanosoma brucei</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	STAG			-	HEAT		Peptidase_C50	
	Heterolobosoa	<i>Naegleria gruberi</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT		-	HEAT		Peptidase_C50	
Alveolata	Ciliata	<i>Tetrahymena thermophila</i>	-	-								Peptidase_C50	
		<i>Paramecium tetraurelia</i>	SMC_hinge/SMC_N	-								Peptidase_C50	
		<i>Oxytricha trifallax</i>	SMC_N	-	-								
	Apicomplexa	<i>Plasmodium yoelii</i>	-	SMC_hinge/SMC_N		STAG						Peptidase_C50	
		<i>Plasmodium falciparum</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N		STAG						Peptidase_C50	
		<i>Cryptosporidium hominis</i>	SMC_hinge/SMC_N	SMC_N	Rad21_Rec8/Rad21_Rec8_N							Peptidase_C50	
		<i>Babesia bovis</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N		STAG							
		<i>Theileria annulata</i>	-			VAR1							
		<i>Toxoplasma gondii</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N								Peptidase_C50	
Heterokonta	Blastocystae	<i>Blastocystis hominis</i>	SMC_N	-								Peptidase_C50	
	Phaeophyceae	<i>Ectocarpus siliculosus</i>	SMC_hinge/SMC_N	-	Rad21_Rec8_N	HEAT	HEAT		-	HEAT		Peptidase_C50	
		<i>Phytophthora ramorum</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT		-	-			
	Oomycota	<i>Phytophthora infestans</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT		-	HEAT		Peptidase_C50	
		<i>Thalassiosira pseudonana</i>	SMC_hinge/SMC_N		Rad21_Rec8_N		HEAT		-	HEAT		Peptidase_C50	
	Bacillariophyta	<i>Phaeodactylum tricornutum</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N		HEAT		-			Peptidase_C50	
		<i>Aureococcus anophagefferens</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8_N	HEAT	-					Peptidase_C50	
Plantae	Viridiplantae	<i>Oryza sativa</i>	SMC_hinge/SMC_N	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-	-	HEAT	WAPL	Peptidase_C50	
		<i>Arabidopsis thaliana</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	STAG	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Chlamydomonas reinhardtii</i>	SMC_hinge/SMC_N	SMC_N	Rad21_Rec8_N	STAG	-			HEAT		Peptidase_C50	
		<i>Ostreococcus tauri</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Ostreococcus lucimarinus</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Physcomitrella patens</i>	SMC_hinge/SMC_N	XP_001784554	Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
		<i>Chlorella vulgaris</i>	-	-	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT		-	HEAT	-	Peptidase_C50	
		<i>Micromonas pusilla</i>	-	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT	-	-	HEAT			
		<i>Selaginella moellendorffii</i>	-	SMC_hinge/SMC_N	Rad21_Rec8_N	HEAT	HEAT	TPR	-	HEAT	WAPL	Peptidase_C50	
	Rhodophyta	<i>Cyanidioschyzon merolae</i>	SMC_hinge/SMC_N	SMC_hinge/SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT			-			Peptidase_C50	
		<i>Galdieria sulphuraria</i>	SMC_hinge/SMC_N	-	?	HEAT	?		-	HEAT		Peptidase_C50	
Haptophyta		<i>Emiliania huxleyi</i>	-	SMC_N	Rad21_Rec8/Rad21_Rec8_N	HEAT	HEAT		-	-		Peptidase_C50	