

Supplementary Table S1 *S. pombe* origins of replication identified in this study

Chromosome I												
Ori Number	Class	Cds1 Suppression	Bioinfo Number (Segurado <i>et al.</i>)	ORIs Number (Heichinger <i>et al.</i>)	ORF Microarray Number (Feng <i>et al.</i>)		ARS/2D-gel Number (Segurado <i>et al.</i>)	Map Position (bp)		Orc4 localization	5' Gene/ORF	3' Gene/ORF
					wt (HU)	Δ cds1 (HU)		Orc1	Mcm6			
1001	L	Yes						15375.5	15375.5	+	SPAC212.07c	SPAC212.06c
1002	L	Yes						51625.5	*	+	SPAC977.09c	SPAC977.10
1003	L	Yes						54625.5	55375.5	+	SPAC977.10	SPAC977.11
1004	L	Yes	1011					63375.5	62875.5	+	SPAC977.14c	SPAC977.15
1005	L	Yes	1012					71125.5	*	+	SPAC977.17	SPAPJ695.01c
1006	L	Yes						75375.5	75375.5	+		
1007	L	Yes	1013					80125.5	*	+	SPAPJ695.01c	ght3/SPAC1F8.01
1008	L	Yes	1014			1001		85625.5	*	+	ght3/SPAC1F8.01	SPAC1F8.02c
1009	L	Yes						89125.5	88625.5	+	SPAC1F8.02c	str3/SPAC1F8.03c
1010	L					1001		95125.5	96375.5	+	SPAC1F8.04c	isp3/SPAC1F8.05
1011	E		1015	1002		1002	AT1015	113875.5	113875.5	+	SPAC11D3.03c	SPAC11D3.04c
1012	L							151125.5	150875.5	+	SPAC5H10.02c	SPAC5H10.03
1013	L						1004	167125.5	166375.5	-	gmh1/SPAC5H10.11	SPAC5H10.12c
1014	E							191125.5	191125.5	+	SPAC13G6.08	SPAC13G6.09
1015	E		1018	1004	1002	1005		200125.5	200625.5	+	SPAC24B11.02	aps1/SPAC24B11.03
1016	L	Yes						239375.5	240875.5	+	rps2601/SPAC806.03c	SPAC806.04c
1017	L	Yes	1020			1006		244875.5	245125.5	-	SPAC806.04c	SPAC806.05
1018	L	Yes	1021			1007		295375.5	295375.5	-	SPAC1F5.02	SPAC18B11.11
1019	L	Yes	1022					303125.5	303125.5	+	tup11/SPAC18B11.10	SPAC18B11.09c
1020	E		1025	1008	1003	1009		365625.5	365625.5	+	SPAC630.09c	SPAC630.10
1021	L	Yes	1026					411125.5	411375.5	+	cut1/SPAC31A2.11c	SPAC31A2.12
1022	E		1027	1010		1010		441625.5	441625.5	+	rad32/SPAC13C5.07	fep1/SPAC23E2.01
1023	L							457875.5	457125.5	+	ste7/SPAC23E2.03c	SPAC24H6.13
1024	E							465125.5	465125.5	+	uba3/SPAC24H6.12c	SPAC24H6.11c
1025	E		1028	1011		1011		474375.5	474375.5	+	gef1/SPAC24H6.09	SPAC24H6.08
1026	E		1029	1012		1012		490375.5	490625.5	+	SPAC24H6.02c	SPAPB21F2.01
1027	E		1030	1014	1004	1014		563625.5	563625.5	+	SPAC2F7.14c	rsm24/SPAC2F7.15

1028	L					1005		593375.5	593125.5	+	SPAC3H8.03	SPAC3H8.04
1029	L	Yes	1031	1015				608625.5	609125.5	+	SPAC3H8.09c	spo20/SPAC3H8.10
1030	L	Yes	1032	1016		1015		651125.5	650875.5	+	SPAC1D4.07c	SPAC1D4.08
1031	E		1033	1018/1019	1007	1016	ORI 12	716125.5	715875.5	+	sxa2/SPAC1296.03c	SPAC1296.04
1032	L							741125.5	739875.5	+	SPAC22G7.05	ura1/SPAC22G7.06c
1033	L							750875.5	750125.5	+	SPAC22G7.07c	ppk8/SPAC22G7.08
1034	L		1034					762375.5	*	+	SPAC4G8.03c	SPAC4G8.15c
1035	L							766125.5	765875.5	+		
1036	L							785625.5	784625.5	+	atp10/SPAC4G8.11c	SPAC4G8.12c
1037	L		1035	1020	1008	1017		794875.5	794875.5	+	SPAC16C9.02c	SPAC16C9.03
1038	E			1021	1009	1018		845375.5	*	+	SPAC521.02	SPAC521.03
1039	E							894375.5	893875.5	-	SPAC23G3.12c	SPAC22H12.01c
1040	E		1039	1024	1010	1020		902875.5	903375.5	+	SPAC22H12.05c	rpc19/SPAC1687.01
1041	L	Yes						939375.5	939125.5	+	ssl3/SPAC1687.18c	SPAC1687.19c
1042	E		1040	1025	1011	1021		966125.5	966875.5	+	byr4/SPAC222.10c	hem13/SPAC222.11
1043	L		1041			1022	AT1041	1028625.5	1028125.5	+	fap2/SPAC139.04c	SPAC139.05
1044	E		1042	1028				1080125.5	1080375.5	+	plb1/SPAC1A6.04c	SPAC1A6.05c
1045	E				1013	1023		1084125.5	1084375.5	-	meu31/SPAC1A6.06c	SPAC1A6.07
1046	E		1043	1029	1013	1023		1091125.5	1091375.5	+	lag1/SPAC1A6.09c	SPAC30D11.15c
1047	E		1044	1030			ars1	1097125.5	1097125.5	+	hus5/SPAC30D11.13	rpl3802/SPAC30D11.12
1048	L		1045			1024		1148875.5	1148875.5	+	SPAC56F8.12	SPAC56F8.13
1049	E		1046	1032		1025		1157375.5	1157625.5	+	esc1/SPAC56F8.16	pso2/SPAC22A12.01c
1050	E							1163375.5	1162875.5	-	csn4/SPAC22A12.03c	rps2201/SPAC22A12.04c
1051	E			1033	1014	1026		1191875.5	1192125.5	+	SPAC22A12.17c	SPAC4C5.01
1052	E		1047	1034				1197375.5	1197125.5	+	ryh1/SPAC4C5.02c	SPAC4C5.03
1053	E					1027		1226375.5	1226375.5	+	psm3/SPAC10F6.09c	SPAC10F6.10
1054	E		1048	1035	1015	1028		1255875.5	1255875.5	+	cut6/SPAC56E4.04c	SPAC56E4.05
1055	E		1049	1036	1016	1029		1275875.5	1276125.5	+	csn2/SPAPB17E12.04c	rpl3703/SPAPB17E12.05
1056	L	Yes	1050					1360625.5	1360625.5	+	fin1/SPAC19E9.02	pas1/SPAC19E9.03
1057	E		1052	1041	1019	1034		1445125.5	1445125.5	+	SPAC3A12.13c	cam1/SPAC3A12.14
1058	E		1053	1043	1020	1035		1477625.5	1477625.5	+	SPAC9.07c	SPAC9.08c

1059	L				1021	1036		1499875.5	*	+	SPAC5D6.09c	mes1/SPAC5D6.08c
1060	E		1055	1046				1510125.5	1509875.5	+	SPAC5D6.04	SPAC5D6.02c
1061	E	Yes ^f		1047	1022	1038		1574125.5	1575125.5	+	SPAC23H4.19	rbx1/SPAC23H4.18c
1062	L	Yes						1600375.5	1600125.5	+	gln1/SPAC23H4.06	SPAC23H4.05c
1063	E		1056	1049				*	*	+	msc1/SPAC343.11c	rds1/SPA343.12
1064	E					1024	1039		1667375.5	1667625.5		
1065	E		1057	1050		1040		1709125.5	1709125.5	+	SPAC664.02c	SPAC664.03
1066	E			1051				1719625.5	1719625.5	+	SPAC664.08c	ggt1/SPAC664.09
1067	L		1059					1766125.5	1768125.5	+	ulp2/SPAC17A5.07c	SPAC17A5.08
1068	L							1823875.5	*	-	psu1/SPAC1002.13c	SPAC1002.20
1069	E		1061	1054		1043		1834875.5	1835125.5	+	SPAC1002.18	SPAC1002.21
1070	L	Yes			1028	1045		1892625.5	*	+	SPAPB1A10.14	SPAPB1A10.15
1071	L	Yes	1062		1028	1045		1894875.5	1895625.5	+	SPAPB1A10.15	sdh2/SPAC140.01
1072	L							1947375.5	1947125.5	+	SPAC3H1.08c	SPAC3H1.09c
1073	L	Yes	1063					1954875.5	1954875.5	+	SPAC3H1.10	SPAC3H1.11
1074	L	Yes						*	1959375.5	+		
1075	E		1064	1056	1030	1047		1975875.5	1975875.5	+	rpl3001/SPAC9G1.03c	oxa101/SPAC9G1.04
1076	L	Yes				1048		2026125.5	2026125.5	+	ddb1/SPAC17H9.10c	SPAC17H9.11
1077	L		1065	1057		1049		2042875.5	2042875.5	+	snu13/SPAC607.03c	SPAC607.04
1078	L	Yes	1067	1059				2097125.5	2096875.5	+	obr1/SPAC3C7.14c	SPAC25A8.03c
1079	L	Yes	1068	1061		1051		2141375.5	2141125.5	+	pnk1/SPAC23C11.04c	SPAC23C11.05
1080	E		1069		1032	1052		2195375.5	2195125.5	+	hst4/SPAC1783.04c	hrp1/SPAC1783.05
1081	E		1070	1063	1033	1053	ORI 18/ORI J	2228875.5	2228875.5	+	SPAC18G6.05c	SPAC18G6.06
1082	L							2233125.5	2233125.5	+	mra1/SPAC18G6.07c	SPAC18G6.09c
1083	E		1073	1066	1034	1054		2250625.5	2250625.5	+	byr3/SPAC13D6.02c	SPAC13D6.03c
1084	L			1067				2263875.5	2264125.5	-	SPAC4G9.06c	B8647-3/SPAC4G9.07
1085	E					1055		2274625.5	2274375.5	+	arg11/SPAC4G9.09c	arg3/SPAC4G9.10
1086	E		1074	1068		1055		2280875.5	2280875.5	+	vps26/SPAC4G9.13c	SPAC4G9.14
1087	L	Yes			1035	1056		2305125.5	2305625.5	+	mac1/SPAC13G7.04c	SPAC13G7.05
1088	L	Yes	1077	1072	1036	1057		2340375.5	2340625.5	+	SPAC6C3.08	SPAC6C3.09
1089	L							2363375.5	2363875.5	+	SPAC17G8.11c	SPAC17G8.12

1090	L	Yes	1079					2406875.5	2407125.5	+	sck1/SPAC1B9.02c	SPAC1B9.03c
1091	L	Yes						2417125.5	2416625.5	+	SPAC6B12.03c	SPAC6B12.04c
1092	E		1080	1075			rip1	2439375.5	2439375.5	+	SPAC6B12.14c	cpc2/SPAC6B12.15
1093	E		1081	1075	1037	1059		2442875.5	2442875.5	+	cpc2/SPAC6B12.15	meu26/SPAC6B12.16
1094	E		1082	1076				2452875.5	2452625.5	+	SPAC32A11.02c	phx1/SPAC32A11.03c
1095	E			1076				2457125.5	2458125.5	+	phx1/SPAC32A11.03c	trp2/SPAC19A8.15
1096	L							2510125.5	2511125.5	-	gly1/SPAC23H3.09c	ssr2/SPAC23H3.10
1097	L	Yes				1061		2526375.5	2526375.5	+	SPAC25H1.01c	jmj1/SPAC25H1.02
1098	L	Yes						2528625.5	2528625.5	+	jmj1/SPAC25H1.02	mug66/SPAC25H1.03
1099	E			1078		1062		2579125.5	2579375.5	+	prs1/SPAC4A8.14	cdc3/SPAC4A8.15c
1100	L					1063		2601125.5	2601375.5	+	SPAC823.11	SPAC823.12
1101	L				1039	1064		2615875.5	2615625.5	-	SPAC7D4.13c	SPAC7D4.12c
1102	L		1085	1079				2618875.5	2618625.5	-	SPAC7D4.12c	sec39/SPAC7D4.11c
1103	L	Yes ^f	1086	1080	1040	1065		2644125.5	2644125.5	+	itr1/SPAC4F8.15	hcs1/SPAC4F8.14c
1104	L	Yes	1088	1081		1066		2668625.5	*	-	hxx2/SPAC4F8.07c	SPAC4F8.06
1105	E	Yes ^f	1090	1082	1042	1067		2720625.5	2720625.5	+	SPAPB2B4.04c	vma5/SPAPB2B4.05
1106	E		1092	1084	1043	1068		2762625.5	2762625.5	+	SPAC6F6.13c	ypt5/SPAC6F6.15
1107	E			1086	1045	1069		2804375.5	2804375.5	+	SPAC1805.16c	crm1/SPAC1B2.01
1108	L	Yes				1072		2875625.5	2876125.5	+	SPACUNK4.17	SPACUNK4.19
1109	L	Yes	1094	1089		1072		2883875.5	2883625.5	+	SPACUNK4.15	SPACUNK4.14
1110	E							2938875.5	2938625.5	+	SPAC2E1P3.05c	SPAPB2C8.01
1111	E		1095	1091				2960625.5	2961125.5	+	SPAPB24D3.07c	SPAPB24D3.08c
1112	E				1050	1074		2978125.5	2978125.5	+	agl1/SPAPB24D3.10c	SPAPB1A11.01
1113	E				1050	1074		*	2980625.5	+	SPAPB1A11.01	SPAPB1A11.02
1114	E			1092	1050	1074		2984125.5	2984125.5	+	SPAPB1A11.02	SPAPB1A11.03
1115	E		1096	1093	1051	1075		3010875.5	3010875.5	+	maf1/SPAC31G5.12c	SPAC31G5.21
1116	E		1097	1094	1051	1075		3023625.5	3022875.5	+	SPAC31G5.18c	SPAC31G5.19
1117	E							3032125.5	3034125.5	+	SPAC1786.01c	SPAC1786.04
1118	E							3053875.5	3053625.5	+	SPAC24C9.06c	bgs2/SPAC24C9.07c
1119	E		1098	1095	1052	1076	ORI 76	3060875.5	3061125.5	+	bgs2/SPAC24C9.07c	SPAC24C9.08
1120	L							3071125.5	*	-	SPAC24C9.11	SPAC24C9.12c

1121	E		1099	1096	1054	1078		3127875.5	3127875.5	+	srb8/SPAC688.08	SPAC688.09
1122	E		1100	1097		1079		3145375.5	3145375.5	+	SPAC688.14	bet5/SPAC3G9.16c
1123	L	Yes						3159375.5	3159375.5	+	peg1/SPAC3G9.12	SPAC3G9.11c
1124	E		1101	1098	1055	1080		3185375.5	3185375.5	+	SPAC3G9.01	SPAC1486.01
1125	E		1104	1101				3301625.5	3301625.5	+	eme1/SPAPB1E7.06c	SPAPB1E7.07
1126	E		1105	1102	1058	1085	pARS767	3321875.5	3321875.5	+	rps602/SPAPB1E7.12	mns1/SPAC2E1P5.01c
1127	E		1106	1103	1059	1087		3405625.5	3405875.5	+	apc5/SPAC959.09c	SPAP32A8.02
1128	E		1107	1104	1060			3411375.5	3411375.5	+	SPAP32A8.03c	rpl501/SPAC3H5.12c
1129	E		1109	1107	1062	1090	ORI c27	3499125.5	3499125.5	+	rps502/SPAC328.10c	SPAC16E8.01
1130	E		1110		1063	1091		3542125.5	3542125.5	-	SPAC1B1.02c	kap95/SPAC1B1.03c
1131	E		1111	1109				3549625.5	3549625.5	+	SPAC1B1.04c	bsu1/SPAC17A2.01
1132	E		1112	1110				3571375.5	3570625.5	+	SPAC17A2.15	csx1/SPAC17A2.09c
1133	E		1114	1110				3577625.5	3577875.5	+	SPAC17A2.10c	SPAC17A2.11
1134	E							*	*	+	SPAC17A2.11	SPAC17A2.12
1135	E							3592875.5	3593375.5	+	SPAC17G6.02c	SPAC17G6.03
1136	E					1092		3611375.5	3612625.5	+	SPAC17G6.11c	cul1/SPAC17G6.12
1137	E		1115	1112	1065	1093		3635625.5	3635625.5	+	SPAC1142.04	ctr5/SPAC1142.05
1138	E'							3646125.5	3647125.5	+	cgs1/SPAC8C9.03	SPAC8C9.04
1139	E		1116	1114	1066	1094		3701375.5	3701625.5	+	mde6/SPAC15A10.10	ubr11/SPAC15A10.11
1140	E							3746875.5	3749875.5	+	rpl1002/SPAP7G5.05	SPAP7G5.06
1141	E			1117/1118		1096		3753625.5	3753625.5	+	SPAP7G5.06	centromere
1142	E			1122	1069	1097		3841125.5	3841375.5	+	SPAC4H3.07c	SPAC4H3.08
1143	E		1124	1123				3853375.5	3853375.5	+	SPAC4H3.12c	SPAC4H3.13
1144	E							3878875.5	3879375.5	+		
1145	E		1125/1126	1126	1071	1098		3882875.5	*	+	pma1/SPAC1071.10c	SPAC1071.11
1146	E		1127	1127				3898625.5	3898875.5	+	SPAC926.07c	SPAC926.08c
1147	E		1128	1128	1072	1099		3954125.5	3953875.5	+	SPAC2F3.14c	lsk1/SPAC2F3.15
1148	E			1129	1174	1100		3992875.5	3992875.5	+	SPAPB15E9.01c	SPAPB15E9.02c
1149	E		1129		1174	1100		3995875.5	3995875.5	+	SPAPB15E9.02c	Tf2-5/SPAPB15E9.03c
1150	L							4010625.5	4010125.5	+	SPAC27E2.03c	SPAC27E2.11c
1151	E		1130	1130	1075	1101		4020125.5	4020375.5	+	SPAC27E2.06c	pvg2/SPAC27E2.07

1152	E		1131	1131	1076	1102	ORI 19	4073125.5	4072375.5	+	SPAC19G12.13c	its3/SPAC19G12.14
1153	E		1132	1132	1077	1103		4089125.5	4089125.5	+	mnl1/SPAC23A1.04c	SPAC23A1.05
1154	E		1133	1133	1078	1104		4137375.5	4137375.5	+	bgl2/SPAC26H5.08c	SPAC26H5.09c
1155	E							4141125.5	4141125.5	+	SPAC26H5.09c	tif51/SPAC26H5.10c
1156	E				1079	1105		4154625.5	4154625.5	+	SPAC26H5.13c	SPAC25B8.01
1157	L							4178125.5	*	-	SPAC25B8.11	SPAC25B8.12c
1158	L							4180875.5	4180625.5	+	SPAC25B8.12c	isp7/SPAC25B8.13c
1159	E		1134	1134	1081	1106		4185875.5	4185875.5	+	isp7/SPAC25B8.13c	mal2/SPAC25B8.14
1160	E			1135				4197625.5	4197875.5	+	SPAC683.03	SPAC683.02c
1161	E				1082	1107		4232625.5	4232625.5	+	SPAC1F7.06	fip1/SPAC1F7.07c
1162	E							4240125.5	4239875.5	+	fio1/SPAC1F7.08	SPAC1F7.09c
1163	E		1135	1136			pcr1	4255125.5	4255125.5	+	pcr1/SPAC21E11.03c	ppr1/SPAC21E11.04
1164	E		1136	1137	1083	1108		4275625.5	4275625.5	+	SPAC2C4.07c	SPAC2C4.08
1165	E		1137	1138	1084	1110		4326625.5	4326875.5	+	SPAC27F1.05c	SPAC27F1.10
1166	L	Yes	1138		1085	1111		4365875.5	4366625.5	+	SPAC23D3.12	SPAC23D3.13c
1167	L					1112		4387375.5	*	+	SPAC1527.03	sec72/SPAC30.01c
1168	L	Yes*	1139	1139	1086	1113		4415625.5	4415875.5	+	SPAC29E6.06c	SPAC29E6.07
1169	E'	Yes		1140		1114		4439625.5	4439875.5	+	SPAC9E9.17c	leu2/SPAC9E9.03
1170	L	Yes	1140			1115		4451375.5	4451375.5	+	ypt2/SPAC9E9.07c	rad26/SPAC9E9.08
1171	L	Yes						4459625.5	4457375.5	+	SPAC9E9.09c	cbh1/SPAC9E9.10c
1172	L	Yes						4468875.5	4468375.5	+	SPAC9E9.12c	wos2/SPAC9E9.13
1173	E			1141		1116		4484625.5	4484625.5	+	stm1/SPAC17C9.10	tim13/SPAC17C9.09c
1174	E		1141	1144		1118		4534125.5	4534125.5	+	SPAC27D7.11c	but1/SPAC27D7.12
1175	L	Yes	1142					4605375.5	4605375.5	+	SPAC12B10.16c	SPAC1093.01
1176	L		1143	1149		1120		4653375.5	4653625.5	+	SPAC144.01	SPAC144.02
1177	L	Yes		1150	1090	1121		4674875.5	4675125.5	+	gwt1/SPAC144.10c	rps1102/SPAC144.11
1178	E		1145	1152	1091	1123		4740375.5	4740375.5	+	SPAC458.04c	plk3/SPAC458.05
1179	E	Yes	1146	1153	1092	1124		4779625.5	4779625.5	+	SPAC11H11.02c	SPAC11H11.03c
1180	E'					1125		4803875.5	4803875.5	+	SPAC22F8.08	rrp16/SPAC22F8.09
1181	E			1155		1127		4845625.5	4845125.5	+	atg13/SPAC4F10.07c	SPAC4F10.08
1182	E		1147	1156				4853375.5	4853625.5	+	SPAC4F10.10c	spn1/SPAC4F10.11

1183	E'	Yes	1148		1094	1128		4883125.5	4882875.5	+	SPAC19B12.02c	bgs3/SPAC19B12.03
1184	L							4912375.5	4913125.5	+	rpn502/SPAPB8E5.02c	mae1/SPAPB8E5.03
1185	E			1158		1129		4917375.5	4917625.5	+	SPAPB8E5.04c	mfm1/SPAPB8E5.05
1186	E		1149	1160				4964125.5	4964125.5	+	vht1/SPAC1B3.16c	clr2/SPAC1B3.17
1187	L							4985625.5	4984875.5	+	SPAC1952.09c	SPAC1952.10c
1188	E		1152	1162	1096	1132	ORI 22	5025375.5	5025375.5	+	SPAC22E12.03c	ccs1/SPAC22E12.04
1189	L		1154	1164		1134		5098125.5	5097375.5	+	rpl3002/SPAC1250.05	atl1/SPAC1250.04c
1190	E		1155	1166	1098	1136		5156625.5	5157375.5	+	SPAC26F1.12c	SPAC26F1.11/dubious
1191	E			1167				5178625.5	5178625.5	+	SPAC26F1.05	etr1/SPAC26F1.04c
1192	L				1100	1137		5190375.5	5190375.5	+	SPAPJ691.02	SPAPJ691.03
1193	E		1156	1168	1101	1138		5234125.5	5234625.5	+	mek1/SPAC14C4.03	B22918-2/SPAC14C4.04
1194	L	Yes	1158					5272375.5	5272375.5	+	adg1/SPAPJ760.03c	SPAC2H10.01
1195	L	Yes	1159	1170		1140		5322875.5	5323125.5	+	hsp9/SPAP8A3.04c	SPAP8A3.05
1196	E		1160	1171	1103	1142		5394125.5	5393875.5	+	SPAC3G6.07	erv1/SPAC3G6.08
1197	E		1162	1173		1144		5449125.5	5449625.5	+	SPAC1039.01	SPAC1039.02
1198	E'							5470375.5	5470375.5	-	isp5/SPAC1039.09	mmf2/SPAC922.01
1199	E		1163	1174	1104	1145		5477125.5	5476875.5	+	SPAC1039.11c	SPAC922.03
1200	E'		1164	1175				5483375.5	5482625.5	-	SPAC922.04	SPAC922.05c
1201	L							5487625.5	5487375.5	-	SPAC922.06	SPAC922.07c
1202	L	Yes	1166	1176		1146		5502625.5	5502875.5	+	mel1/SPAC869.07c	SPAC869.06c
1203	L	Yes	1167	1176				*	5506625.5	+	SPAC869.06c	SPAC869.05c
1204	L	Yes						5510875.5	*	+	SPAC869.05c	SPAC869.04
1205	L	Yes						5517875.5	5516125.5	+	SPAC869.03c	SPAC869.02c
1206	L	Yes	1168					5521875.5	*	+	SPAC869.02c	SPAC869.01
1207	L	Yes	1169		1105	1147		5529875.5	*	+	SPAC186.01	SPAC186.02c

Chromosome II

Ori Number	Class	Cds1 Suppression	Bioinfo Number (Segurado <i>et al.</i>)	ORIs Number (Heichinger <i>et al.</i>)	ORF Microarray Number (Feng <i>et al.</i>)		ARS/2D-gel Number (Segurado <i>et al.</i>)	Map Position (bp)		Orc4 localization	5' Gene/ORF	3' Gene/ORF
					wt (HU)	Δ cds1 (HU)		Orc1	Mcm6			
2001	L	Yes						*	31375.5	+	SPBC1348.10c	SPBC1348.11
2002	L	Yes						38125.5	38125.5	+	SPBC1348.13	SPBC1348.14c

2003	L	Yes						53125.5	53125.5	+	grt1/SPBPB8B6.04c	SPBPB8B6.05c
2004	L	Yes						63375.5	61875.5	+	SPBPB21E7.02c	SPBPB21E7.04c
2005	L	Yes						66875.5	*	+	SPBPB21E7.05	SPBPB21E7.06
2006	L							69875.5	*	+	SPBPB21E7.06	aes1/SPBPB21E7.07
2007	L	Yes						74375.5	74375.5	+	SPBPB21E7.08	SPBPB21E7.09
2008	L							78125.5	*	+	SPBPB21E7.09	SPBPB21E7.10
2009	E				2001	2001		81875.5	81375.5	+	SPBPB21E7.10	SPBPB10D8.01
2010	L		2001					86875.5	*	+	SPBPB10D8.02c	SPBPB10D8.03
2011	E'		2002	2001				90875.5	91375.5	+	SPBPB10D8.03	SPBPB10D8.04c
2012	L		2006		2002			104625.5	*	+	SPBPB10D8.07c	SPBC359.01
2013	E		2007					112125.5	111875.5	+	alr2/SPBC359.02	SPBC359.03c
2014	L		2008	2002				*	117625.5	+	SPBC359.03c	SPBC359.04c
2015	L		2010					132375.5	132625.5	+	SPBC359.06	SPBC1683.01
2016	E		2011	2003				142375.5	142125.5	+	SPBC1683.03c	SPBC1683.04
2017	E		2012	2004	2002	2003		152125.5	152125.5	+	SPBC1683.05	SPBC1683.06c
2018	L	Yes	2013		2003	2004		201875.5	202125.5	+	fbp1/SPBC660.04c	SPBC660.05
2019	L	Yes	2014					204375.5	*	+	SPBC660.05	SPBC660.06
2020	L							228875.5	228875.5	+	SPBC660.15	SPBC660.16
2021	E		2015	2005	2004	2005		259125.5	259125.5	+	clr3/SPBC800.03	rpl4301/rpl37a-1
2022	E		2016	2006				278625.5	278625.5	+	SPBC800.11	SPBC800.12c
2023	E				2006			282375.5	282375.5	+	SPBC800.13	SPBC1773.01
2024	E							324125.5	*	+	SPBC1773.17c	car1/SPBP26C9.02c
2025	E		2018	2009				326625.5	326625.5	+	car1/SPBP26C9.02c	SPBP26C9.03c
2026	E		2019	2009				333375.5	333375.5	+	SPBP26C9.03c	SPBC1271.15c
2027	E					2008		354875.5	357375.5	+	SPBC1271.09	SPBC1271.08c
2028	L	Yes	2023	2013				454625.5	454625.5	-	SPBC428.06c	meu6/SPBC428.07
2029	L				2008	2011		485375.5	484875.5	+	alp6/SPBC902.01c	ctf18/SPBC902.02c
2030	E			2014	2009	2012		*	518625.5	+	rps27/SPBC1685.10	rlp1/SPBC1685.11
2031	E							521125.5	*	+		
2032	E		2024	2015				523625.5	523125.5	+	rlp1/SPBC1685.11	SPBC1685.12c
2033	E				2010			529375.5	529625.5	+	SPBC1685.13	SPBC1685.14c

2034	E		2025	2016				571125.5	570625.5	+	SPBC354.09c	SPBC354.10
2035	E			2017				593375.5	592875.5	+	tea4/wsh3	wtf2/SPBC1706.02c
2036	E		2026	2018	2012	2014	AT2026	604125.5	604125.5	+	rpl803/rpk04	rps1701/SPBC839.05c
2037	E				2013	2016		670125.5	670375.5	+	SPBC947.05c	SPBC947.04
2038	E		2028	2021				674875.5	675125.5	+	SPBC947.04	SPBC947.03c
2039	E			2023		2017		717875.5	717625.5	+	ubc4/SPBC119.02	SPBC119.03
2040	E					2017		721875.5	*	-	mei3/SPBC119.04	csh3/SPBC119.05c
2041	E							724125.5	723875.5	+	csh3/SPBC119.05c	sco1/SPBC119.06
2042	E		2029	2024	2014	2018		746375.5	746125.5	+	SPBC119.18	rit1/SPBC119.14
2043	E							833875.5	833875.5	+	SPBC530.15c	SPBC36.01c
2044	E							838625.5	*	+	SPBC36.01c	SPBC36.02c
2045	E							*	841375.5	+		
2046	E		2031	2027	2017	2021		844625.5	843875.5	+	SPBC36.02c	SPBC36.03c
2047	E		2032	2027	2017	2021		848125.5	848125.5	+	SPBC36.03c	cys11/SPBC36.04
2048	L	Yes	2033					890875.5	892875.5	+	pmp1/SPBC713.11c	erg1/SPBC713.12
2049	L	Yes	2035					949625.5	949625.5	+	gap1/SPBC646.12c	sds23/SPBC646.13
2050	L	Yes	2036	2030		2023		958125.5	958125.5	+	SPBC646.15c	SPBC646.16
2051	L	Yes						962875.5	962875.5	+	dic1/SPBC855.01c	SPBP35G2.02
2052	E			2033		2025		1055875.5	1055875.5	-	gtr1/SPBC337.13c	rpb4/SPBC337.14
2053	L	Yes				2026		1079125.5	1080875.5	+	SPBC1734.10c	SPBC1734.11
2054	E		2038	2034	2019	2027		1106375.5	1106625.5	+	cyp3/SPBC1709.04c	sks2/SPBC1709.05
2055	E		2039	2035	2020	2028		1142645.5	1142625.5	+	skp1/SPBC409.05	uch2/SPBC409.06
2056	E							1148625.5	1148875.5	+	wis1/SPBC409.07c	SPBC409.08
2057	E			2038	2023	2029		1244875.5	1245125.5	+	gyp10/SPBC651.03c	SPBC651.04
2058	E		2041	2039			AT2041	1255875.5	1255625.5	+	rpc1/SPBC651.08c	SPBC651.09c
2059	E		2042/2043	2040				1267375.5	1266125.5	+	cwl1/SPBC31A8.01c	SPBC31A8.02
2060	E			2041				1269625.5	*	+	SPBC31A8.02	but2/SPBC3D6.02
2061	E		2044	2042	2024	2030	ORI c7	1278375.5	1278875.5	+	mad1/SPBC3D6.04c	ptp4/SPBC3D6.05
2062	E		2046	2044	2025	2031		1313625.5	1313625.5	+	sol1/SPBC30B4.04c	kap109/SPBC30B4.05
2063	E							1352125.5	1351125.5	+	SPBC27B12.14	SPBC27B12.12c
2064	L							1366875.5	*	-	hht2/SPBC8D2.04	stf1/SPBC8D2.05c

2065	E			2045	2026	2032		1389875.5	1390125.5	+	SPBC8D2.16c	SPBC8D2.17
2066	E		2047	2047				1444625.5	1444375.5	+	SPBP22H7.05c	SPBP22H7.06
2067	E		2048	2048	2028	2034		1457625.5	1457625.5	+	nep2/SPBC32H8.02c	bem46/SPBC32H8.03
2068	L							1462375.5	1462375.5	+	SPBC32H8.05	SPBC32H8.06
2069	L	Yes				2035		1500875.5	1501125.5	+	SPBC11B10.08	cdc2/SPBC11B10.09
2070	E		2049	2050	2029	2036	ars2004	1546625.5	1546375.5	+	SPBC83.18c	atf1/SPBC29B5.01
2071	E				2030		ars2003	1557125.5	1556875.5	+	isp4/SPBC29B5.02c	rpl26/SPBC29B5.03c
2072	E		2051	2051	2031		ars2002	1589875.5	1590125.5	+	kap1/SPBC28F2.10c	SPBC28F2.11
2073	E			2053				1656875.5	1656875.5	+	SPBC21B10.09	SPBC21B10.08c
2074	E			2054				1667625.5	1668375.5	+	nrf1/SPBC21B10.04c	SPBC21B10.03c
2075	E							1683375.5	1683125.5	+	ubp11/SPBC1902.04c	ran1/SPBC19C2.05
2076	E			2055	2033	2038		1707875.5	1708375.5	+	SPBC2F12.15c	gua1/SPBC2F12.14c
2077	E			2056	2033	2038		1718875.5	1718375.5	+	SPBC2F12.12c	rep2/SPBC2F12.11c
2078	E			2034	2039			1752125.5	1750625.5	+	SPBC1D7.03	scr1/SPBC1D7.02c
2079	E			2058	2035	2040		1780375.5	1780125.5	+	sce3/SPBC18H10.04c	SPBC18H10.05
2080	E			2059	2036	2041		1807625.5	1806875.5	+	SPBC18H10.18c	SPBC18H10.19
2081	L	Yes	2062	2060		2042		1869875.5	1869875.5	+	mug142/SPBC3H7.09	SPBC3H7.08c
2082	E				2037			1894625.5	1894625.5	-	spo14/SPBP16F5.01c	mcs2/SPBP16F5.02
2083	E			2061		2044		1943375.5	1943875.5	+	pab2/SPBC16E9.12c	ksp1/SPBC16E9.13
2084	E			2062	2039			1954625.5	1955125.5	+	SPBC16E9.16c	rem1/SPBC16E9.17c
2085	E			2063	2039			1965625.5	1965875.5	+	SPBC1E8.03c	Tf2-10-pseudo/SPBC1E8.04
2086	E		2063	2064	2040	2046		2025625.5	2024875.5	+	SPBP23A10.11c	SPBP23A10.12
2087	E		2065	2066	2041	2047		2053625.5	2053875.5	-	SPBC29A3.07c	po4/SPBC29A3.08
2088	L		2066	2067		2048		2071875.5	2071625.5	-	SPBC29A3.16	gef3/SPBC29A3.17
2089	L	Yes	2067					2106375.5	2106625.5	-	nif1/SPBC23G7.04c	sui1/SPBC23G7.05
2090	L	Yes						2112625.5	2112375.5	+	SPBC23G7.07c	rga7/SPBC23G7.08c
2091	E	Yes	2068	2068	2042	2049	pARS756/ORI 75	2119625.5	2119375.5	+	matmc_2/SPBC23G7.09	SPBC23G7.10c
2092	E		2069/2070	2069		2050		*	2131125.5	+	rpp202/SPBC23G7.15c	matmi_1/SPBC1711.01c
2093	E							2134125.5	2134375.5	+		
2094	E		2071	2070				2139625.5	2139125.5	+	matmc_1/SPBC1711.02	SPBC1711.03
2095	E			2072				2178875.5	2178875.5	+	nup85/SPBC17G9.04c	cyp6/SPBC17G9.05

2096	E		2072	2073	2044	2051	AT2072	2188625.5	2187625.5	+	csx2/SPBC17G9.08c	tif213/SPBC17G9.09
2097	E		2073	2075	2045	2054		2247875.5	2247875.5	+	SPBC15C4.04c	SPBC15C4.05
2098	L	Yes			2046	2055		2267125.5	2267625.5	+	SPBC21H7.06c	his5/SPBC21H7.07c
2099	E		2074	2076	2047	2056		2320625.5	2320875.5	+	trx2/SPBC12D12.07c	ned8/SPBC24C6.01c
2100	L	Yes				2057		2340125.5	2341125.5	+	SPBC24C6.09c	SPBC24C6.10c
2101	L	Yes	2075					2412875.5	2412375.5	+	mex67/SPBC1921.03c	SPBC1921.04c
2102	E		2076	2080	2049	2059		2445375.5	2445125.5	+	ucp3/SPBC21D10.05c	fnx1/SPBC12C2.13c
2103	E			2081				2525375.5	2525375.5	+	SPBC365.14c	alp4/SPBC365.15
2104	E							2532875.5	2532875.5	+	alp4/SPBC365.15	SPBC365.16
2105	E		2078	2082				2554875.5	2554875.5	+	SPBC29A10.07	SPBC29A10.08
2106	L	Yes	2080		2052	2063	AT2080	2582875.5	2583125.5	+	SPBC2G5.02c	SPBC2G5.03
2107	E		2081	2083				2595625.5	2595625.5	+	rpc25/SPBC2G5.07c	SPBC25B2.01
2108	L							2614625.5	*	+	SPBC25B2.08	SPBC25B2.09c
2109	L	Yes						2649875.5	2650125.5	+	SPBC6B1.08c	SPBC6B1.12c
2110	E		2084	2087		2066		2704875.5	2703625.5	+	mrpl39/SPBC4F6.08c	str1/SPBC4F6.09
2111	E		2085	2088				2740625.5	2740375.5	+	SPBC336.02	efc25/SPBC336.03
2112	E		2086	2091	2055	2068	tug1	2793125.5	2792375.5	+	gpx1/SPBC32F12.03c	tug1/SPBC32F12.04
2113	E		2087	2092			rum1	2801375.5	2801375.5	+	duo1/SPBC32F12.08c	rum1/SPBC32F12.09
2114	L	Yes	2088			2069	pARS745	2829875.5	2830125.5	+	SPBC19C7.04c	SPBC19C7.05
2115	E	Yes	2089	2093		2070	pARS772	2903125.5	2902375.5	+	SPBP4H10.14c	SPBP4H10.15
2116	L	Yes						2911875.5	*	-	SPBP4H10.18c	SPBP4H10.19c
2117	E		2091	2094	2057	2071		2941125.5	2940875.5	+	ubp9/SPBC1703.12	SPBC1703.13c
2118	E		2092	2095	2058	2072		2988875.5	2988625.5	+	SPBC2D10.11c	rhp23/SPBC2D10.12
2119	L		2094	2096	2073	2073		3054125.5	3053875.5	+	SPBC13E7.06	SPBC13E7.07
2120	L	Yes	2095	2098	2060	2075		3099875.5	3099375.5	+	zuo1/SPBC30D10.01	rap1/SPBC1778.02
2121	L	Yes						3163375.5	3163875.5	+	SPBC609.01	ptn1/SPBC609.02
2122	E		2097	2100		2078		3177875.5	3177875.5	+	dis2/SPBC776.02c	SPBC776.03
2123	E		2100	2102		2080		3288875.5	3289125.5	+	SPBC20F10.02c	SPBC20F10.03
2124	E			2103		2082		3339125.5	3339625.5	+	SPBC17D1.05	dbp3/SPBC17D1.06
2125	E		2102	2104		2083		3363375.5	3363125.5	+	SPBC11C11.12	rpl1807/SPBC11C11.07
2126	L	Yes	2103				pARS727	3381125.5	3381125.5	+	SPBC3B8.08	dsd1/SPBC3B8.07c

2127	L		2104					3410125.5	3410125.5	+	ptr2/SPBC13A2.04c	SPBC4B4.01c
2128	E		2105	2106	2063	2084		3423875.5	3424125.5	+	smg1/SPBC4B4.05	vps25/SPBC4B4.06
2129	E			2107	2064	2085		3468375.5	3468375.5	+	SPBC2G2.16	SPBC2G2.17c
2130	E							3489875.5	3489625.5	+		
2131	E		2107	2108				3493125.5	3493125.5	+	zfs1/SPBC1718.07c	SPBPB7E8.01
2132	L							3503875.5	3504125.5	-	SPBPB7E8.02	SPBC1105.01
2133	E				2065	2086		3512875.5	3511875.5	+	mrpl16/SPBC1105.03c	cbp1/SPBC1105.04c
2134	E			2109				3515125.5	3515125.5	+	cbp1/SPBC1105.04c	exg1/SPBC1105.05
2135	E	Yes'	2108	2110	2066	2087		3558375.5	3558375.5	+	SPBC887.09c	mcs4/SPBC887.10
2136	E				2067	2088		3599125.5	3599125.5	+	dna2/SPBC16D10.04c	mok13/SPBC16D10.05
2137	E		2110	2111				3607125.5	3607375.5	+	mok13/SPBC16D10.05	SPBC16D10.06
2138	E		2111	2112	2068	2089		3636875.5	3636875.5	+	SPBPB87.01c	SPBPB87.02
2139	L	Yes						3703125.5	3705125.5	+	puc1/SPBC19F5.01c	SPBC19F5.02c
2140	E	Yes	2114	2115		2092		3722875.5	3722375.5	+	mcm7/SPBC25D12.03c	suc22/SPBC25D12.04
2141	E		2115	2117	2069	2093		3765125.5	3764375.5	+	sar1/SPBC31F10.06c	SPBC31F10.07
2142	L							3779375.5	3779375.5	+	hip1/SPBC31F10.13c	hip3/SPBC31F10.14c
2143	L			2118	2070	2094		3804125.5	3804125.5	-	SPBC21C3.02c	SPBC21C3.03
2144	E			2119				3816875.5	3817125.5	+	SPBC21C3.10c	SPBC21C3.11
2145	E		2116	2121	2071	2095		3840875.5	3840875.5	+	SPBC23E6.01c	SPBC23E6.02
2146	E		2119	2123	2072	2098		3917875.5	3918125.5	+	SPBC1604.09c	imp1/SPBC1604.08c
2147	E							3928125.5	3928625.5	+	SPBC1604.04	SPBC1604.03c
2148	E		2120	2124	2073	2099		3940125.5	3940875.5	+	SPBC1677.03c	thi2/SPBC26H8.01
2149	L	Yes						3976125.5	3977375.5	+	dis3/SPBC26H8.10	SPBC26H8.11c
2150	L	Yes						3985875.5	3986875.5	+	SPBC26H8.12	ste11/SPBC32C12.02
2151	E		2123	2125	2076	2101		4021125.5	4021375.5	-	nup120/SPBC3B9.16c	isa2/SPBC3B9.17
2152	L							4033375.5	4032125.5	+		
2153	L			2126				4035625.5	4035125.5	+	git11/SPBC215.04	gpd1/SPBC215.05
2154	L	Yes	2125		2078	2104		4109375.5	4109375.5	+	SPBC56F2.06	SPBC56F2.05c
2155	L				2079			4131125.5	4131125.5	+	crp3/SPBC1861.01c	abp2/SPBC1861.02
2156	L		2128	2129	2081	2107		4204875.5	4204875.5	+	alg6/SPBC342.01c	SPBC342.02
2157	E			2130				4228125.5	4228125.5	+	SPBC16G5.07c	trp4/SPBC16G5.08

2158	E	Yes ^f		2131	2082	2108		4238625.5	4238625.5	+	top3/SPBC16G5.12c	SPBC16G5.13
2159	L	Yes				2109		4253625.5	4253875.5	+	erg24/SPBC16G5.18	SPBC16G5.19
2160	L	Yes	2129	2132		2110		4294125.5	4294625.5	+	rsm25/SPBC16A3.04	lyn1/SPBC16A3.03c
2161	L	Yes						4345875.5	4346125.5	+	rpt1/SPBC16C6.07c	qcr6/SPBC16C6.08c
2162	E		2130	2133	2083	2111		4361875.5	4362125.5	-	SPBC244.02c	sid4/SPBC244.01c
2163	L	Yes				2113		4413125.5	4414125.5	+	SPBC1289.13c	SPBC1289.14
2164	L		2131	2135	2084	2114		4421875.5	4421875.5	+	Tf2-11/SPBC1289.17	SPBC1289.15
2165	L							4427875.5	4427875.5	+	SPBC1289.15	SPBC1289.16c
2166	E		2132	2136				4442375.5	4442125.5	+	SPBC8E4.03	SPBC8E4.02c
2167	L		2133	2137		2115		4453125.5	4453375.5	+	pho1/SPBP4G3.02	SPBP4G3.03
2168	L					2115		4456125.5	*	+		
2169	L							4458875.5	*	-	SPBP4G3.03	SPBP4G3.03

Chromosome III

Ori Number	Class	Cds1 Suppression	Bioinfo Number (Segurado <i>et al.</i>)	ORIs Number (Heichinger <i>et al.</i>)	ORF Microarray Number (Feng <i>et al.</i>)		ARS/2D-gel Number (Segurado <i>et al.</i>)	Map Position (bp)		Orc4 localization	5' Gene/ORF	3' Gene/ORF
					wt (HU)	Δ cds1 (HU)		Orc1	Mcm6			
3001	E		3002	3001	3001	3001		35375.5	35375.5	+	SPCP20C8.03	SPCC1884.01
3002	E		3003	3004		3003		76375.5	76625.5	+	SPCC757.12	SPCC757.13
3003	E		3005	3007	3003	3004	ars3002/3004	123875.5	122875.5	+	SPCC330.07c	alg11/SPCC330.08
3004	E		3008					188125.5	189125.5	+	fft2/SPCC1235.05c	sif1/SPCC1235.06
3005	E		3006	3009	3004	3006		206875.5	207875.5	+	ght6/SPCC1235.13	ght5/SPCC1235.14
3006	E		3007	3010				232125.5	231875.5	+	SPCC548.06c	ght1/SPCC548.07c
3007	E		3009	3012		3007		254125.5	253875.5	+	SPCC794.04c	SPCC794.6
3008	E		3013					279375.5	278125.5	-	mae2/SPCC794.12c	SPCC794.15
3009	E		3010	3014		3008		286375.5	286625.5	+	SPCC553.10	spb70/pol12
3010	E			3015	3006			305875.5	305875.5	-	SPCC553.03	SPCC553.02
3011	E							347625.5	347625.5	+	dis1/SPCC736.14	SPCC736.15
3012	E		3012	3017	3008	3010		370125.5	370375.5	+	SPCC594.07c	qcr9/SPCC1682.01
3013	E		3013	3018	3009	3011		398125.5	398125.5	+	ubp16/SPCC1682.12c	SPCC1682.13
3014	E		3015	3020				505625.5	505625.5	+	SPCC970.06	rpl3601/SPCC970.05
3015	E		3016	3021	3011	3013		518625.5	518875.5	+	rad16/SPCC970.01	prp11/SPCC10H11.01

3016	E		3017	3024				565625.5	565625.5	+	sap1/SPCC1672.02c	SPCC1672.03c
3017	E		3018	3025	3012	3014		575125.5	575125.5	+	asp1/SPCC1672.06c	SPCC1672.07
3018	E			3026				605625.5	605375.5	-	ung1/SPCC1183.06	SPCC1183.07
3019	E		3019	3028	3014	3015		643125.5	643125.5	+	taf72/SPCC5E4.03c	cut1/SPCC5E4.04
3020	E		3020	3029		3016		666125.5	666125.5	+	pin1/SPCC16C4.03	SPCC16C4.04
3021	E		3021	3030	3015	3017		720125.5	720125.5	+	SPCC18B5.02c	wee1/SPCC18B5.03
3022	E		3022	3031	3016	3018		764125.5	764125.5	+	oca2/SPCC1020.10	SPCC1020.09
3023	E		3023					826875.5	827875.5	+	SPCC1393.13	SPCC2H8.02
3024	E				3018	3020		847875.5	847875.5	-	SPCC63.06	SPCC63.07
3025	E		3024	3033				853625.5	853625.5	+	ppk36/SPCC63.08c	SPCC63.10c
3026	E		3025	3035	3019	3022		936375.5	936875.5	+	SPCC24B10.19c	SPCC24B10.20
3027	E							966375.5	967875.5	+		
3028	E		3026	3036	3020	3023		971125.5	971375.5	+	SPCC1795.13	SPCC1795.12c
3029	E			3037				986125.5	985875.5	+	SPCC1795.07	map2/SPCC1795.06
3030	L	Yes	3027	3038		3025		1039625.5	1039625.5	+	SPCC1259.02c	rpa12/SPCC1259.03
3031	E			3041				1066125.5	1065875.5	+	meu27/SPCC1259.14c	centromere
3032	E			3042	3021	3026		1141875.5	1142125.5	+	centromere	SPCC4B3.18
3033	E		3039	3044	3024	3028		1254125.5	1254125.5	+	snd1/SPCC645.08c	mrp137/SPCC645.09
3034	E		3040	3045	3025	3030		1324125.5	1323875.5	+	rpl3402/SPCC1322.15	SPCC1322.16
3035	E			3046	3026	3031		1343375.5	1343375.5	+	SPCC338.18	rad21/SPCC338.17c
3036	E							1371875.5	1371125.5	+		
3037	E		3042	3047	3027	3032		*	1373875.5	+	SPCC338.02	ags1/SPCC1281.01
3038	E				3028	3033		1393625.5	*	-	rsc7/SPCC1281.05	SPCC1281.06c
3039	E			3048				1396875.5	1396875.5	+	SPCC1281.06c	SPCC1281.07c
3040	E		3043	3049			AT3043	1411125.5	1411375.5	+	SPCC622.07	hta1/SPCC622.08c
3041	E		3044	3050		3034	AT3044	1417875.5	1417875.5	+	SPCC622.10c	SPCC622.11
3042	E		3045	3051	3029	3035		1449125.5	1449125.5	+	SPCC61.04c	SPCC61.05
3043	E		3046	3052	3031	3036		1511875.5	1511875.5	+	dcr1/SPCC584.10c	SPCC584.11c
3044	E					3037		1524875.5	1524875.5	+	SPCC584.15c	SPCC584.16c
3045	E		3047	3053		3037		1532625.5	1532125.5	+	SPCC584.01c	cut2/SPCC584.02
3046	E			3054		3038		1556375.5	1556375.5	+	SPCC162.12	SPCC162.11c

3047	E			3055		3039		1576875.5	1576625.5	+	ent1/SPCC162.07	SPCC162.06c
3048	E		3048	3056				1595375.5	1595125.5	+	SPCC13B11.02c	SPCC13B11.03c
3049	E		3049	3057	3032	3040		1609875.5	1609875.5	+	SPCC777.07c	SPCC777.07
3050	E							1672875.5	1672875.5	+	dad5/SPCC417.02	SPCC417.03
3051	E							1675875.5	1675625.5	+	SPCC417.04	chr2/SPCC417.05c
3052	E							1680625.5	1680625.5	+	ppk35/SPCC417.06c	mta1/SPCC417.07c
3053	E		3051	3059	3035	3041		1687125.5	1685125.5	+	mta1/SPCC417.07c	tef3/SPCC417.08
3054	E		3052	3060	3035	3041		1690125.5	1690625.5	+	tef3/SPCC417.08	SPCC417.09c
3055	E		3053	3061	3036	3042	AT3053	1720125.5	*	+	SPCC191.08	gst1/SPCC191.09c
3056	E				3036	3042		*	1723375.5	+	SPCC191.10	inv1/SPCC191.11
3057	E		3054	3062				1728625.5	1728875.5	+	SPCC1450.01c	SPCC1450.02
3058	E			3063	3037	3043		1754625.5	1754875.5	+	cek1/SPCC1450.11c	SPCC1450.12
3059	E							1815375.5	1814625.5	+	cgs2/SPCC285.09c	SPCC285.10c
3060	E		3055	3064	3038	3044	ORI c11	1823125.5	1823125.5	+	SPCC285.13c	SPCC285.14
3061	E		3056	3065			nmt1	1838375.5	1838625.5	+	SPCC1223.01	nmt1/SPCC1223.02
3062	E		3057	3065	3039	3045	AT3057	1845375.5	1845375.5	+	gut2/SPCC1223.03c	SPCC1223.04c
3063	E							1861375.5	1860625.5	+	SPCC1223.09	SPCC1223.10c
3064	E		3058	3066		3046		1868125.5	1868375.5	+	ptc2/SPCC1223.11	meu10/SPCC1223.12c
3065	E							1878625.5	1879125.5	-	SPCC297.01	ssp1/SPCC297.03
3066	E				3040	3047		1922625.5	1923625.5	+	SPCC74.09	sly1/SPCC74.01
3067	E		3059	3068	3040	3047		1930125.5	1929875.5	+	SPCC74.02c	ssp2/SPCC74.03c
3068	E							1937375.5	1936125.5	+	ssp2/SPCC74.03c	SPCC74.04
3069	E			3069	3041	3048		1969375.5	1969625.5	+	SPCC18.06c	rpc53/SPCC18.07
3070	E		3060	3072	3042	3049		2036375.5	2036375.5	+	SPCC1739.04c	set5/SPCC1739.05
3071	E							*	*	+	set5/SPCC1739.05	SPCC1739.06c
3072	E							2042625.5	*	+	SPCC1739.07	SPCC1739.08c
3073	E							2046375.5	2046625.5	+	SPCC1739.08c	cox13/SPCC1739.09c
3074	E				3043	3050		2064375.5	2064625.5	+	npp106/SPCC1739.14	wtf21/SPCC1739.15
3075	E			3073				2068625.5	2068625.5	+	wtf21/SPCC1739.15	amt1/SPCPB1C11.01
3076	E							2072375.5	2072875.5	+	amt1/SPCPB1C11.01	SPCPB1C11.02
3077	L							2076375.5	2076625.5	+	SPCPB1C11.02	SPCPB1C11.03

3078	E		3062	3074	3044	3051	pARS744	2108375.5	2108375.5	+	ksg1/SPCC576.15c	wtf22/SPCC576.16c
3079	E		3064	3077	3047	3053		2201875.5	2201875.5	+	SPCC830.09c	SPCC830.10
3080	E							2258375.5	2258625.5	+	bgs4/SPCC1840.02c	sal3/SPCC1840.03
3081	E		3065	3079	3049	3054		2277125.5	2277125.5	+	SPCC1840.09	lsm8/SPCC1840.10
3082	E			3080		3055		2300875.5	2301375.5	+	alr1/SPCC965.08c	SPCC965.09
3083	L	Yes	3066					2309625.5	2309625.5	+	SPCC965.12	SPCC965.13
3084	E		3068	3083	3051	3058		2383625.5	2383375.5	+	SPCC1827.03c	SPCC1827.04

Legend and Comments

Ori number: Replication origins identified as pre-RC sites in this study; the first digit indicates the chromosome number (1-3).
Class: Activity of origins determined by BrdU incorporation in the presence of HU (Supplementary Fig. S5); E, Early origin (red column); L, Late and/or inefficient origin (blue column).
Cds1 suppression: Origins suppressed by Cds1-dependent checkpoint in the presence of HU, as indicated in Fig. 5 and Supplementary Fig. S8.
Bioinfo Number: AT-rich island number (Segurado et al., 2003).
ORIs Number: Origins defined by the increase in DNA content (Heichinger et al., 2006). Location of each ORI was compared with our origins by its peak and flanking ORF position.
ORF Microarray Number: Origins defined by the increase in ssDNA content in the presence of HU (Feng et al., 2006). 5-kb deviation, which corresponds to fork movement in the presence of HU, from the original peak position was allowed.
ARS/2D-gel Number: Name of ARS or origins identified by ARS analyses and 2D-gel analyses (summarized in Segurado et al., 2003).
Map Position: The peak position of Orc1 and Mcm6 signals (Supplementary Fig. S1 and S2).
Orc4 localization: A "+" and "-" indicates that significant signal of Orc4 was detected or not, respectively (Supplementary Fig. S3).
5' Gene/ORF, 3' Gene/ORF: The name of the 5' gene/ORF or 3' gene/ORF flanking the region containing the pre-RC site.

#: A significant but faint signal of BrdU was detected.

*: A peak was not programatically picked up, although significant localization of Orc1 or Mcm6 was detected.