Table 3. Candidate chromosome instability (CIN) genes analyzed

Gene No.	Yeast gene	Human gene	E-value	Protein Accession	mRNA Accession	Number of Exons	Transcript length (b)	Coding sequences
1	ADE1	PAICS	6.00E-08	NP_006443	NM_006452.2	10	3304	1353
2	ADE5,7	GART	0.00E+00	NP_000810	NM_000819.3	22	3469	3030
3	ADE6	PFAS	1.00E-176	NP_036525	NM_012393.1	28	5368	4014
4	AOR1	CFDP1	5.00E-10	NP_006315	NM_006324.1	7	1279	897
5	ARP6	ACTR6	2.00E-44	NP_071941	NM_022496.2	11	2464	1188
6	ASF1	ASF1A	8.00E-51	NP_054753	NM_014034.1	3	507	504
7	BIM1	MAPRE1	2.00E-28	NP_036457	NM_012325.1	7	2588	804
8	BRE1	RPN20	5.00E-26	NP_062538	NM_019592.5	20	3946	2931
9	BUB3	BUB3	2.00E-24	NP_004716	NM_004725.1	8	2731	984
10	CDC6	CDC6	2.00E-32	NP_001245	NM_001254.2	12	3053	1680
11	CDC73	CDC73	9.00E-12	NP_078805	NM_024529.3	17	4969	1593
12	CDH1	FZR1	1.00E-92	NP_057347	NM_016263.2	14	2978	1479
13	CHL1	CHLR1/DDX11	1.00E-112	NP_085911	NM_030653.2	27	3887	2910
14	CHL1	CHLR2/DDX12	4.00E-94	AAB06963.1	U33834	19	2202	2202
15	CIK1	GOLGA4	4.00E-07	NP_002069	NM_002078.3	24	7696	6690
16	CIN8	KIF11	2.00E-67	NP_004514	NM_004523.2	22	4910	3168
17	CLB5	CCNB1	6.00E-39	NP_114172	NM_031966.2	9	2169	1299
18	CSM3	TIPIN	8.00E-08	NP_060328	NM_017858.1	8	1087	903
19	CTF18	CHTF18	3.00E-36	NP_071375	NM_022092.1	21	3051	3048
20	CTF3	CENPI	N/A	NP_006724	NM_006733.2	21	3262	2268
21	CTF4	WDHD1	1.00E-18	NP_009017	NM_007086.1	26	4734	3387
22	CTF8	CTF8	N/A	NP_001035236.1	NM_001039690	4	2911	1572
23	CTK2	CCNK	2.00E-11	NP_003849	NM_003858.2	10	1198	1065
24	DCC1	DCC1	8.00E-11	NP_076999	NM_024094.1	9	2212	1179
25	DJP1	DNAJC10	4.00E-18	NP_061854	NM_018981.1	24	4428	2379
26	DOC1	ANAPC10	5.00E-22	NP_055700	NM_014885.1	5	863	555
27	ECO1	ESCO1	5.00E-11	NP_443143	NM_052911.1	12	4649	2520
28	ECO1	ESCO2	3.00E-07	NP_001017420.1	NM_001017420	11	3663	1803
29	ELG1	C17orf41	2.00E-05	NP_079133	NM_024857.3	23	6245	5532
30	ETR1	MECR	5.00E-47	NP_057095	NM_016011.1	10	2307	1119
31	GIM4	PFDN2	1.00E-15	NP_036526	NM_012394.2	4	677	462
32	HCM1	FOXL2	1.00E-20	NP_075555	NM_023067.2	1	1131	1128
33	HHF1	HIST2H4	2.00E-37	NP_003539	NM_003548.2	1	396	309
34	ISA2	HBLD1	2.00E-05	NP_919255	NM_194279.1	5	850	462
35	KAR3	KIFC1	2.00E-69	XP_371813	XM_371813.1	11	2702	2385
36	KRE28	ARID4A	3.00E-06	NP_002883	NM_002892.2	24	4818	3771
37	LSM6	LSM6	5.00E-09	NP_009011	NM_007080.1	4	1350	240
38	MAD2	MAD2L1	5.00E-38	NP_002349	NM_002358.2	5	1384	615
39	MCM16	HDLBP	2.00E-03	NP_976221	NM_203346.1	28	5032	3804
40	MCD1	RAD21	8.00E-08	NP_006256	NM_006265.1	14	3645	1893
41	MDJ1	DNAJA3	2.00E-31	NP_005138	NM_005147.3	12	2684	1440
42	MET22	IMPA1	4.00E-05	NP_005527	NM_005536.2	9	2322	831
43	MET7	FPGS	1.00E-11	NP_004948	NM_004957.2	15	2487	1761
44	MUS81	MUS81	1.00E-18	NP_079404	NM_025128.3	16	2318	1653
45	NUP170	NUP155	2.00E-30	NP_705618	NM_153485.1	35	8057	4173
46	NUP84	NUP107	5.00E-16	NP_065134	NM_020401.1	28	3123	2775
47	OAR1	DHRS7B	2.00E-13	NP_056325	NM_015510.3	7	1375	975
48	OMA1	OMA1	6.00E-29	NP_660286	NM_145243.2	9	1935	1572
49	PAC10	VBP1	4.00E-30	NP_003363	NM_003372.3	6	1778	591
50	PDR13	HSPA8	2.00E-56	NP_006588	NM_006597.3	9	2260	1938
51	PDS5	SCC-112	6.00E-32	NP_056015	NM_015200	33	6735	3906
52	PDS5	APRIN	2.00E-31	NP_055847	NM_015032.1	36	7443	4347
53	PIG1	PPP1R3C	2.00E-06	NP_005389	NM_005398.3	2	2567	951
54	PSH1	TRIM25	1.00E-07	NP_005073	NM_005082.3	9	5744	1890
55	RAD1	ERCC4	1.00E-109	NP_005227	NM_005236.1	11	2751	2748
56	RAD10	ERCC1	1.00E-12	NP_001974	NM_001983.2	10	1101	891
57	RAD18	RAD18	9.00E-20	NP_064550	NM_020165.2	13	5886	1485
58	RAD24	RAD17	8.00E-17	NP_579917	NM_133339.1	18	2874	2043
59	RAD5	SMARCA3	5.00E-70	NP_620636	NM_139048.1	25	5317	3027
60	RAD51	RAD51	1.00E-122	NP_002866	NM_002875.2	10	2255	1017
61	RAD52	RAD52	2.00E-40	NP_002870	NM_002879.2	11	2682	1257
62	RAD55	RAD51L3	1.00E-05	NP_002869	NM_002878.2	10	23246	984
63	RAD57	RAD51L1	4.00E-19	NP_598193	NM_133509.2	10	1155	1152
64	RAD6	UBE2A	7.00E-61	NP_003327	NM_003336.2	6	1796	456
65	RAD61	C1orf114	4.00E-03	NP_067002	NM_021179.1	6	1914	1524
66	RAD9	DSPP	1.00E-07	NP_055023	NM_014208.1	6	3750	3747
67	RNH35	RNASEH2A	7.00E-46	NP_006388	NM_006397.2	8	1072	897
68	RPA12	ZNRD1	1.00E-14	NP_740753	NM_170783.1	5	743	378
69	RPB4	POLR2D	3.00E-12	NP_004796	NM_004805.2	4	1900	426
70	RPL2B	RPL8	1.00E-102	NP_150644	NM_033301.1	6	874	771
71	RTN2	RTN2	5.00E-08	NP_005610	NM_005619.3	11	2282	1635
72	RTS1	PPP2R5D	1.00E-148	NP_006236	NM_006245.2	16	2959	1806
73	RTT101	CUL2	9.00E-06	NP_003582	NM_003591.2	21	4233	2235
74	RTT103	C20orf77	3.00E-14	NP_067038	NM_021215.2	7	4219	978
75	SAC3	MCM3AP	4.00E-26	NP_003897	NM_003906.3	28	6113	5940
76	SCC2	NIPBL	3.00E-19	NP_597677	NM_015384.3	47	10435	8412
77	SCC3/IRR1	STAG1	2.00E-21	NP_005853	NM_005862.1	34	5166	3774
78	SCC3/IRR1	STAG3	3.00E-13	NP_036579.2	NM_012447	34	4289	3675
79	SCC3/IRR1	STAG2	2.00E-11	NP_006594.3	NM_006603	34	6045	3693
80	SCC4	MAU-2	N/A	NP_056144.1	NM_015329.2	19	4161	654
81	SGS1	BLM	1.00E-115	NP_000048	NM_000057.1	22	4470	4251
82	SHM2	SHMT1	1.00E-148	NP_004160	NM_004169.3	12	2511	1449
83	SHP1	NSFL1C	6.00E-34	NP_057227	NM_016143.3	9	3644	1110
84	SIC1	LOC284861	7.00E-02	NP_963859	NM_201565.1	2	3823	858
85	SLX8	RNF10	7.00E-08	NP_055683	NM_014868.3	17	3784	2433
86	SMC1	SMC1L1	1.00E-35	NP_006297	NM_006306.2	25	9725	3699
87	SMC1	SMC1L2	6.00E-41	NP_683515.3	NM_148674	25	4268	3723
88	SMC3	CSPG6	1.00E-45	NP_005436.1	NM_005445.3	29	4114	3651
89	SNU66	SART1	2.00E-07	NP_005137	NM_005146.3	22	3561	2400
90	SPT4	SUPT4H1	1.00E-18	NP_003159	NM_003168.1	5	1499	351
91	SRO7	STXBP5L	4.00E-14	XP_045911	XM_045911.8	28	4370	3558
92	SSN6/CYC8	UTX	9.00E-44	NP_066963	NM_021140.1	29	5438	4203
93	THP1	PCID2	6.00E-07	NP_060856	NM_018386.1	15	1786	1359
94	TOF1	TIMELESS	5.00E-07	NP_003911	NM_003920.1	29	4376	3624
95	TOP3	TOP3A	1.00E-124	NP_004609	NM_004618.2	19	4116	3003
96	TPD3	PPP2R1B	1.00E-133	NP_859050	NM_181699.1	16	2105	2001
97	TSA1	PRDX2	7.00E-71	NP_005800	NM_005809.4	6	1007	594
98	UBR1	UBR2	9.00E-28	NP_056070	NM_015255.1	47	7857	5265
99	YDL156W	WDR76	3.00E-19	NP_079184	NM_024908.1	13	3978	1878
100	YLR193C	PREL1	2.00E-22	XP_371496	XM_371496.2	13	929	654
101	YTA7	ATAD2	1.00E-131	NP_054828	NM_014109.2	28	4896	4170
102	ZUO1	ZRF1	1.00E-48	XP_379909	XM_379909.1	17	1877	1752